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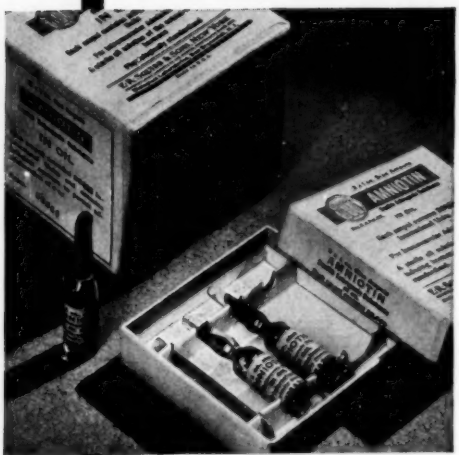
Less distress



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Editorials

The Medical Book News Editorship

BEGINNING with this issue, Professor Alfred E. Shipley will edit the MEDICAL BOOK NEWS department of the journal. The retirement of Professor Tasker Howard from the editorship ends several years of scholarly service. The CLASSICAL QUOTATIONS feature of this department, consisting of a portrait and a selection from the writings of some medical celebrity, was inaugurated by Professor Howard. MEDICAL BOOK NEWS, a most important section of this publication and one upon which great pains have been bestowed in our readers' interest, continues in eminently able hands.

"The Hands, by Simple Contact, May Carry Infection"

SINCE Louis-Ferdinand Céline has become an impressive world figure in literature, chiefly through his sensational "Journey to the End of the Night" (*Voyage au Bout de la Nuit*), his early work has been exhumed for study in order to discern the germs of later expressions of his genius. Therefore his thesis for the medical degree at Paris in 1924 has been reprinted in English by Little, Brown and Company, the translation being the work of Robert Allerton Parker. It is published along with Céline's "Mea Culpa," which is a scathing indictment of present-day Russia based upon recent first-hand observation occupying only 33 of the 175 pages of the book. For us, the Semmelweis study is the more important creation.

Céline makes Semmelweis live again in his lurid and indignant pages. It is as though we were there in Vienna and feeling and working with him in his grim battle against entrenched stupidity and malice. The subject justifies the screaming style, for the story of Semmelweis is one of the most tragic and regrettable of medical biographies. Read this biography by a brother physician of distinguished literary power and you will understand Semmelweis and his dreadful crucifixion at the hands of his colleagues at the same time that you will see the young writing genius, Céline, laying some of the foundations of his later style wherewith he has pilloried many shams of human society. With a sickening force Céline makes one realize how reactionary the medical hierarchy has been at times—and also wonder whether it can ever be so again.

The temper of Céline may be inferred from his remark that "I am still lacking a few hatreds. I am certain that they exist." It will be well for present-day medicine to watch its step while he lives and wields a pen.

This biography makes partially clear, however, why Semmelweis failed during his own lifetime to win the world of medicine to his side in his great fight to prove the nature and origin of puerperal fever. He was perhaps the most tactless man who ever lived. But nevertheless he had laid hold of the whole truth about the terrible obstetric scourge of his time, when the mortality reached incredible heights all over Europe, and preached that truth fearlessly—and always insultingly; opponents were "assassins." Semmelweis reduced the mortality in his own service to 1.27 per cent through cleanliness and antisepsis (Pasteur was still a young man), but was forced to desist even after such a demonstration and finally hounded to his death by insanity and a dramatic self-inflicted infection to prove his case. What a theme for a play, with truth far stranger than fiction!

But the picture is not wholly dark, for Rokitansky, Skoda, Hebra and Michaelis stood valiantly but unavailingly by him as Scanzoni and Braun and their followers drove him to his grave. So convinced was Michaelis that he committed suicide in expiation for his own lapses, thus adding poignancy to the Greek-like

drama that raged around the figure of Semmelweis. The picture is by no means an unmitigated disgrace to medicine.

In the words of Garrison: "He is one of medicine's martyrs and, in the future, will be one of its far-shining names, for every child-bearing woman owes something to him."

The flaming indignation over Semmelweis' fate, aroused in the medical student Céline in 1924, undoubtedly helped to light the fire in one of the world's few creative minds. So Semmelweis has touched off genius as well as saved countless lives.

Pandora's Spermatoxin

DR. Morris Fishbein reminds us that a method of rendering a woman sterile for two or three-year periods may soon be available. The technic is Russian.

That sort of thing will be controllable in a totalitarian state like Russia. We have seen Russia legalize abortion and we have seen her make abortion illegal. Birth rates and populations are regulated according to industrial, agricultural and military needs. The new spermatoxin will in Russian hands be injected or withheld according to the mathematical computations of technical directors.

Here in the United States we will employ it with the judgment of drunken sailors, without direction or control. This gift from the box of the Russian Pandora may be more effective against the entire Western world than military offensives and communistic propaganda combined.

The subject presents another sinister aspect—the use of the new spermatoxin as a direct weapon against enemy states. Those who seek to alarm us about the horrors of the Second World War have so far overlooked the spermatoxin. They draw a dreadful picture of a world devastated by improved machine guns; larger and more impregnable tanks; baby tanks in profusion to take the place of cavalry; more efficient air bombers; better distributed poison gas; death rays, the ray bullet, other rays that will destroy the brain, effect hemolysis, burn up the bodies of enemy troops, and set off mines in any desired spot; radio-controlled aircraft carriers, planes, tanks or machine gun lifts; flying submarines or diving airplanes; sub-machine guns in place of rifles; and the death centrifuge, an American invention, throwing by mechanical force (not powder) 33,000 rounds of steel bullets per minute.

They have overlooked the spermatoxin, more deadly than anything they have cited.

When the Russians have completed their development of spermatoxins one can conceive of their employment upon conquered civilian populations to gradually and humanely wipe them out. To make the women of a nation sterile for the remaining length of each one's child-bearing life would dispose of a foe easily and surely.

The question arises, to what extent was the experimental work on the spermatoxins in Russia inspired by the spirit of pure science, and to what extent by other considerations?

War and Falling Birth Rates

CONSCIOUS and unconscious resistance to the manufacture of cannon fodder may *today* in part explain falling birth rates. Such falling birth rates may be merely an advertisement of this particular reaction. Since war destroys populations there is no sense in creating them. We are assuming a greater awareness today of the implications of war. Were this modern awareness lacking, and were birth rates to rise and a scarcity economy in the midst of plenty continue to prevail, war would be more certain and more devastating. Resistance to war, however shown, is also resistance to social injustice.

Dr. Norman E. Himes of Colgate University recognizes this resistance as a definite thing to be reckoned with, and dubs the phenomenon a "birth strike." He sees the "British strike" as partly a revolt against the anomalies of capitalism, including the anti-social distribution of wealth, and partly a revolt against some extremes of nationalism and imperialism.

If all this is true, war may in time yield to the increasing pressure.

Is this situation a partial explanation of why a Second World War is being postponed—a matter of some puzzlement to date, considering the absurd point reached by armaments? Perhaps "they" will never be able to start it for a num-

ber of reasons, one of which we have attempted to adduce.

—J. K.

The Diagnosis and Treatment of Sickness Yesterday and Today and the Prevention of Sickness Tomorrow

WE HAVE seen a case of "glossitis and stomatitis" in a man of fifty, without blood changes and without any change in the gastric acidity, clear up under liver therapy after the failure of many other measures. What had we here?

By the time pernicious anemia was diagnosed in the gay nineties the patient was a kind of living cadaver. Today early diagnosis and the initiation of proper treatment are commonplace and routine performances. This means very great progress.

"Proper treatment" suggests a major factor in the etiology of pernicious anemia; that is to say, a "decent" diet must be prophylactic as well as curative.

Pernicious anemia may be taken as an exaggerated symbol of the many ailments that result wholly or in part from nutritional deficiencies. Could the nutritional needs of all the people be met the morbidity rate and the mortality toll would be vastly altered. Toward this medical millennium we must look, unless we are insincere in our formulation and promotion of the principles of preclinical medicine.

How can the individual physician and the collective profession fail to take a livelier interest in the abatement of the social and economic bases of our widespread malnutrition?

The pioneer who writes a really good book, with the widest possible sweep, on preclinical medicine, will find himself, at first, somewhat in the position of Alexander Graham Bell, when, having perfected the telephone, he was hardly noticed at the Centennial Exposition in Philadelphia (1876). Bell, it will be remembered, showed his instrument on a small table in an obscure corner of the Educational Building. The exposition was about to close when the Emperor of Brazil happened to pick up the instrument and, hearing Bell's voice at the other end, yelled "My God, it talks!" The attention of Joseph Henry, secretary of the Smithsonian Institution, and of Lord Kelvin, was attracted by the Emperor's chance exclamation and recognition of the epochal nature of Bell's work followed quickly.

When an adequate work on preclinical medicine appears we suppose it will have to go through somewhat the same rigmarole as Bell's telephone. Some personage will have to cry out: "My God, it talks!"

The Venereally Infected Male Brought to Book

THOSE magistrates who are ordering examinations of men for venereal disease who have been arrested in raids on brothels, and who are urging a universal roundup of the men patrons of bordellos, are doing the best single act of service in the campaign against the venereal diseases. Universal custom in the past has decreed the immediate release of such men by the courts. The economic and social status of many of the parties involved has, no doubt, in the past, determined policy. If we are now sincere, we may expect to see, as the campaign proceeds, immensely important results from the new policy. If we are not sincere in our protestations, adherence to the old policy will defeat the campaign.

Armaments Before Syphilis Eradication

CAN we afford to fight syphilis along special lines, in addition to our other public health work? Remember that bombing planes, tanks equipped with machine guns, and radio-controlled torpedoes come first. Armaments are essential; syphilis eradication is not.

The Washington Bull Ring

EMOTIONAL stress, strain and battle among governmental factions in and about Congress have recently exacted a high toll in the way of coronary disease.

Given immature intellectual and emotional politicians leading more or less sedentary lives, consumed with provincial hatreds and prejudices, and fighting senseless battles over one false issue after another, the country is bound to

witness coronary havoc. Visit Washington, look these men over with medical acumen, and see death written upon many of their faces.

We said "leading more or less sedentary lives;" for Denny has shown the very definite relationship between coronary disease and the sedentary life. Coronary disease is not likely to attack those who engage in a reasonable amount of *daily* physical exercise.

One sees these creatures of lesser breed succumbing to strain while an emotionally imperturbable chief, free from hatreds, amused by the Lilliputian burlesque, working harder than any five Congressional clowns, taking a daily swim despite a major handicap and retiring early at night to restful sleep zestfully survives, to the disgust of his enemies and the wonderment of myriad health cranks who, for very obvious reasons, can't turn the same trick.

Venesection for Anemia

A PASSAGE on page 522 of Meakins' *Practice of Medicine* (Mosby) affords a clue to a possibly efficacious method of treating certain types of anemia. Speaking of venesection in the Osler-Vaquez disease, Meakins recommends venesection as an emergency measure, not, however, to be "advocated as a repeated procedure as its repetition may act as an additional erythrocytic stimulant." If the effect of bloodletting is always so to stimulate blood production, why might not frequently repeated small venesections be useful as a hematopoietic measure in the anemias? Possibly one reason for the great vogue of blood letting in past centuries was the empirical observation of improved hemic component as an apparent consequence.

TECHNICAL FACTORS AFFECTING THE TUBERCULIN TEST

In order to test the heat stability of tuberculin and the tendency of tuberculin to remain adherent to glassware and rubber. WALDO E. NELSON, Cincinnati, FLORENCE B. SEIBERT and ESMOND R. LONG, Philadelphia, (*Journal A. M. A.*, June 26, 1937), performed simultaneous Schick tests on 125 children with a new syringe for the test on one arm and a syringe previously used for tuberculin and then washed and sterilized on the other arm. In seven instances the test was positive in the arm on which the toxin from the syringe previously used for tuberculin was used, while negative in the other arm on which the same amount of toxin was used from a new syringe. The patients injected were tuberculin positive, and these seven reactions must be looked on as falsely positive Schick tests, in reality tuberculin reactions. Other incidents have demonstrated that tuberculin may be transferred by articles other than syringes and that rigid technic is necessary to avoid such contamination. A certain proportion of tuberculin-positive subjects react to the injection of physiologic solution of sodium chloride from syringes previously used for tuberculin and then simply washed and sterilized. The use of pipets and rubber stoppers, previously employed for tuberculin and subsequently cleaned by ordinary methods, may introduce into supposedly tuberculin-free mediums sufficient tuberculin to produce occasional reactions. The danger in the employment of tuberculin syringes in routine allergy tests, as with pollen proteins, is also apparent. Phenol in concentrations of 0.25 and 0.5 per cent in physiologic solution of sodium chloride does not cause a reaction simulating the tuberculin reaction. The most effective methods of cleaning syringes to destroy all traces of tuberculin are boiling in soap solution and prolonged immersion in sulfuric acid-potassium dichromate cleaning fluid. It is probably safer and more practical, however, to use syringes never before used for tuberculin whenever a tuberculin reaction might confuse the result, as in the Schick test or in various protein allergy tests.

THE ROLE OF THE NEUROSES AND PSYCHONEUROSES IN *Thoracic Symptomatology*

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THE concept of neuroses and psychoneuroses as distinct clinical entities is necessary for diagnosis and especially for successful treatment. In actual practice, however, it is frequently difficult to distinguish between what is "neurotic" and what is "organic". This is due to the fact that every disease must be considered as having both a somatic and a psychic component. The two components are indivisible and should be evaluated in their relation to etiology and to the total situation [Weisenburg, Yaskin and Pleasants (1)]. Whether the disease arises as a result of structural changes in the soma, of abnormal chemisms, or of emotional conflicts or abnormal psychic tensions, a change of affect of the individual (the subjective phase) and corresponding changes in the neuromuscular, autonomovisceral, and secretory functions (objective evidences —emotional expression) take place. The principal relay station for emotional components of the various diseases would appear to be the diencephalon [Yaskin (2), Fetterman (3)]. It is responsible for the correlation of psychic and somatic disorders, has a regulating influence upon both of the major divisions of the vegetative system and indirectly upon most of the endocrine glands, upon metabolism, and heat regulation, and receives impulses from, and sends them to, the old and new brain and the neuraxis. In primary somatic disease this center receives abnormal impulses and registers them in the viscera, especially in the abdomen, "sounding board of emotions" [James (4)] in the form of emotions. In disorders of the general chemism the center may be affected directly or centripetally via the vegetative nervous system. In states of emotional conflict and abnormal tension this center may be influenced from the cerebral cortex and then set up impulses responsible for secondary changes in function and even in structure of the various viscera [Alvarez (5), Moschcowitz (6), Weiss (7)]. Viewed from this concept, the diagnosis of neurosis or psychoneurosis requires not only the absence of any primary somatic or chemical disease, but also at all times the finding of a satisfactory psychogenic cause.

THE above two criteria for the diagnosis of minor psychoses make such a diagnosis very difficult. The coexistence of organic thoracic disease and neurotic symptoms is well known, and their etiological relationship is often difficult to evaluate. Even with very painstaking investigation, organic disease may not be correctly diagnosed and the cases managed as neuroses. The causes for such errors have been reviewed elsewhere [Weisenburg, Yaskin, and Pleasants (1); Yaskin (8)]. Even more difficult, however, is the finding of adequate psychogenic causes without which therapy is often futile. The chief reason for the difficulty is that our present psychopathology is definitely unsatisfactory and, when subjected to scientific criteria of proof, is not completely convincing even to the most sympathetic observer with the objective method of thinking. However, there is general agreement that for therapeutic purposes the diagnosis of psychoneuroses and neuroses implies the absence of any primary structural or

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chemical disease; the existence, in the majority of cases, of a certain constitutional make-up (the predisposing causes), the occurrence of precipitating or exciting causes, and the formation of symptoms which may be in the psychic or in the physiological sphere, or in both. The constitutional factors may be inherited or acquired, frequently as an integral part of the psychosexual development of the individual. The term "psychopathic personality" is intended to describe in this presentation a type of make-up characterized by either marked swings of mood or seclusiveness, misinterpretiveness, and other schizoid trends. In the "neurotic personality" the neurosis is "built into the character" and is characterized by manifestations intermediate between normal character traits and neurotic symptoms [Jones (9)]. Symptom formation results from the action of some exciting cause which may be an injury, infection, a chemical disturbance, or some emotional stress. The symptoms may continue long after the exciting cause ceases to operate, and thus represent release phenomena of the neurotic traits of the previously apparently well-integrated personality. These symptoms include either frank anxiety states or symptoms tending to avoid anxiety such as conversion, compulsive-obsessive, neurasthenic reactions, etc. [Yaskin (2)]. These symptoms may vary in severity from a slight headache, increased fatigability and irritability, to devastating visceral disturbances, intractable insomnia with marked agitation, and alarming loss of weight. The clinical manifestations frequently overshadow completely the primary constitutional factors or the immediate precipitating mechanisms.

ANXIETY is the central symptom of nearly all the neuroses and psychoneuroses and is of fundamental importance in the management of all neuroses. Anxiety may be defined as a form of affectivity recognized introspectively as an unpleasant affect, accompanied by a fear without any, or without an adequate cause; and manifested objectively by abnormal changes in the neuromuscular, autonomovisceral, and secretory functions (emotional expressions). That the heart and other thoracic viscera should respond to states of fear is not surprising when it is borne in mind that, like the gastro-intestinal tract, these organs have a rich sympathetic and parasympathetic innervation and that the vegetative system is under the control of the central nervous system. In addition, Cannon (10) has shown that, under the influence of emotions, there is an alteration in the epinephrine content which is particularly prone to influence the accelerators of the heart.

Viewed from this broad approach it is easier to evaluate the various "neurotic" symptoms commonly encountered in the course of *organic* disease of the thoracic viscera. The exaggerated and perverted responses which frequently baffle the clinician must be regarded as reactions or release phenomena of the neurotic traits of the patient's personality. For therapeutic purposes a careful clinical evaluation of all these factors is obviously indispensable. Not only must the organic factors receive appropriate attention but it should be recognized that poor psychotherapy may lead to failure of all treatment in such cases. Neglect of psychotherapy may lead to unfavorable emotional excitement and increase the disturbances of the organic disorder and thus intensify the vicious cycle. It should be remembered that emotional factors may activate symptoms in predisposed individuals (cardiac decompensation, vasomotor rhinitis, bronchial asthma). Lastly there can be little doubt that prolonged emotional stress may in some individuals first lead to "functional" symptoms but eventually cause irreversible organic changes [Dunbar (11)].

THE more common thoracic symptoms unaccounted for by any *primary* organic causes include:

(1) Precordial consciousness and pains, disturbances of cardiac rate and rhythm, and fears of cardiac death. These subjective symptoms—the *cardiac neurosis*—are observed in one form or another in nearly all neuroses. In some neuroses the cardiac complaint is a prominent or lasting symptom; in others it may be an accessory complaint or only an ephemeral occurrence. [Yaskin (12)].

(2) Cough, irregularities of rate, rhythm and amplitude of respiration,

and some forms of bronchial asthma [Mohr (13), Dunbar (11)]. This group of symptoms is not as frequent as the cardiac but is often more resistent to treatment.

(3) Hiccough and other affections of diaphragmatic origin [Heyer (14)].

(4) Some forms of vasomotor rhinitis [Mohr (13)], disturbances of articulation, phonation and deglutition [Perepel (15)].

(5) Painful affections of the thoracic cage.

For *therapeutic* purposes the following two factors must be always borne in mind:

I. *The various thoracic symptoms are only a conspicuous part of the total neurosis.* The symptoms can rarely be successfully treated without evaluating the total situation.

Just what *determines* the occurrence of disturbed function in some organs and not in others is not definitely known. The choice of the organ involved may be traceable to one or more of the following factors. (1) An inherited structural or functional inferiority of some organ [Adler (16)]. (2) Acquired constitutional traits through early inhibitions and frustrations, especially in the psychosexual spheres, and (3) Incidental and often precipitating causes which often act through auto- and hetero-suggestion and other psychic mechanisms in a manner entirely unknown to the patient.

II. *The various thoracic symptoms and their etiology, psychopathology, prognosis and treatment differ in the several types of neuroses and psychoneuroses.* This topic is emphasized under several headings as revealed in a recent study of 100 cases [Yaskin (17)]. Table I indicates family and personality; Table II, the precipitating causes; Table III, the modes of treatment employed; and Table IV the end-results.

Thoracic Symptoms in the Various Types of Neuroses and Psychoneuroses

Anxiety Neurosis. Under this heading are included those neuroses characterized by episodic occurrence of anxiety, accompanied by definite somatic symptoms, and by complete or nearly complete freedom from all symptoms between attacks. Of all somatic manifestations, palpitation is the most common. Its occurrence is accompanied by anxiety, trembling, and general weakness and is frequently accompanied or followed by excessive perspiration. There were 9 cases of anxiety neurosis in the above mentioned series of 100 cases. In each of these cases palpitation with anxiety was the outstanding symptom complex. The personality make-up in anxiety neurosis is not of particularly great significance. The precipitating causes are to be found in the immediate present or in the recent past and, as observed in this series, were not particularly complicated. The treatment in this group of cases is relatively simple if the causes can be removed. Inasmuch as most of the latter are to be found in the irregularities of the sexual act, the treatment consists largely in the removal of the cause, in suggestion, encouragement, and other superficial modes of psychotherapy, and sedative medication. The results in the majority of cases of anxiety neurosis are favorable and all cases in this series recovered, there being only one recurrence.

Conversion Hysteria. Under this term are designated forms of psychoneuroses characterized by the presence of motor, sensory, visceral, and episodic phenomena (conversion symptoms) accompanied by little or no anxiety, not due to any primary physical or biochemical abnormality and traceable to some definite psychogenic cause. Cardiac complaints are not prominent symptoms in conversion hysteria and consist of a complaint of vague precordial pains or of a statement by the patient that he has "heart disease" but unaccompanied by any overt anxiety. In 12 patients in this series, 2 complained of heart weakness, 1 of precordial pain, and 2 of "cardiac disease." Three patients had a persistent cough, one hiccough, two transient stammering and two aphonia. As revealed in the tables, in conversion hysteria the family history and the personality of the patient play a considerable rôle. The precipitating causes in this group of cases are usually not difficult to find, and in this series were related chiefly to marital difficulties, death in the family, or to a feeling of economic insecurity. Suggestion in some form is probably the first

method of treatment to be employed in these cases. Attempts at compromise formation in marital and economic difficulties also require and deserve considerable attention. The end-result in these cases is usually good provided the cause can be removed or the patient is induced to make some compromise. In this series 9 patients recovered, 3 improved, and only 2 had recurrences.

Anxiety Hysteria. Under this term are designated conditions showing a variety of somatic complaints not due to primary organic or biochemical disturbances, accompanied by diffuse anxiety or by phobic phenomena, and traceable to psychogenic, often unconscious, causes. The anxiety hysteria group comprised 63 per cent of the series of 100 cases analyzed. In these 63 cases changeability of pulse rate and frequent attacks of tachycardia were observed in 43 cases, actual dyspnea in 13, precordial discomfort in 24, dizziness and especially fear of cardiac death in 18, transient elevation of blood pressure in 17, and fear of being left alone or going out unaccompanied in 13 cases. Three of these patients had previously been subjected to subtotal thyroidectomy without any improvement of symptoms. Cough and irregular breathing were observed in 14 cases, vasomotor rhinitis in 6, difficulty in swallowing in 9 and pain in the chest in 17.

IN THIS group of cases the family histories indicate a large proportion of neuropathic and psychopathic ancestry. The personality histories indicate a large neuropathic element. The predisposing causes in this group of cases are usually deep-seated, while the precipitating factors are numerous and varied. Even without a deep analysis and only by the review of the precipitating factors, it may be observed that these patients have a great deal of distortion in their psychosexual development and attitude. As is well known, the clinical course of these cases is extremely troublesome to the patient, the family, and to the physician. In addition to numerous somatic complaints, the presence of diffuse anxiety, and numerous phobic phenomena makes the management of these cases trying and requires a great deal of ingenuity on the part of the physician and his aides. Eleven of this series required hospitalization because it was impossible to manage them at home. In another 11 cases a great deal of attention had to be paid to the regimen and the daily activities of the patients, which were outlined for them. Encouragement, suggestion, and hospitalization were used in a good many of the cases but these in themselves have limited value. An element which is of some importance in the treatment of these patients is an attempt at compromise formation. Especially is this true in cases of marital difficulties where the illness of the patient is probably the most important element in the marital infelicity. Sedative and tonic medications were indispensable in most of these cases. Perhaps the single most important therapeutic agent is the partial analysis, but, because of the elements of time consumption and expense and because of the resistance of a good many patients, this is not always practical. My impression is that, of all the cases, those in whom partial analyses were performed were most benefited. At the same time attention is directed to the fact that, even in those 15 cases where partial analysis was employed, other forms of treatment, especially sedative and tonic medication, were used.

In this series of 63 cases, 21 recovered, 30 improved, and 6 showed no improvement. Eighteen of the series had recurrences. Thirteen of the 21 recovered patients received a partial analysis. It is of interest to note that among the recurrences not one had received partial analysis. Six patients developed psychoses, which should make the diagnosis of anxiety hysteria guarded. Five of these six cases developed an agitated depression while one turned out to be definitely schizophrenic.

Compulsive-Obsessive Reactions (Psychasthenia of Janet). Under this term are designated conditions characterized by the existence of irrepressible thoughts and irresistible impulses designed to avoid anxiety, by the patient's recognition of the absurdity of these thoughts and impulses, and by the appearance of anxiety when the patient attempts to "disobey" the thoughts and impulses. There were 13 cases in the analyzed

series. Palpitation and a feeling of impending death is the penalty in these patients when they attempt to disobey the irrepressible thought or impulse. In one case hiccough and in two stuttering were monosymptomatic expressions of a compulsion neurosis. In this group the family history is not predominantly significant. The personality history, on the other hand, shows a very definite neuropathic trend. This becomes more evident when even a partial analysis is attempted. By this method neurotic traits are found to have existed since childhood, but were thoroughly integrated in the personality make-up, and did not produce disabling symptoms until somewhat later in life. The precipitating causes can be ascertained only by a partial analysis and then are to be found largely in the psychosexual sphere. It is in this form of psychoneurosis that treatment other than a partial analysis is of little value. These patients do have, however, periods of anxiety, when the ordinary forms of treatment including encouragement, suggestion, and sedative medication are of definite value. For the majority, however, some attempt must be made to make them relive their early experiences. This is a long drawn-out affair because of the inherent resistance of these patients to the necessary investigation and because of their critical attitude toward any form of treatment. Of the 13 cases in this series all received a partial analysis, two with the aid of amytal narcosis (Yaskin (18)].

Neurasthenia. By this term is understood a relatively rare disease beginning in early life, lasting with intermissions throughout life, and characterized by abnormal mental and physical fatigability and irritability, various somatic complaints, mental depression, and insomnia. Neurasthenia as a primary disease is to be distinguished from the neurasthenic symptom-complex which is of common occurrence in many and varied somatic, endocrine, and metabolic diseases as well as in the psychoses, neuroses, and psychoneuroses. In this series there were only 3 cases, all with a neuropathic family history, and all showing temporary improvement with suitable rest regimens and living within the bounds of their physical and mental capacities. In the 3 patients analyzed, palpitation, precordial discomfort, and "heart consciousness" were found. The analysis of the cases of neurasthenia is omitted from the tables.

General Comment

IT IS evident that thoracic complaints are common in all forms of neuroses and constitute the predominant and lasting symptoms in some. The character, severity, and duration of thoracic symptoms depend on the type of neurosis of which the thoracic symptom is only a constituent part. The type of the neurosis depends upon the various etiological factors which are responsible for the mechanism of symptom formation. In the final analysis the diagnosis

TABLE I

Family History and Personality in This Series of 100 Cases

	No. of cases.
Family history:	
Neuropathic	44
Psychopathic	16
Negative	40
Total	100
Personality:	
Neurotic	75
Psychopathic	2
Average normal	23
Total	100

and successful treatment of thoracic neurosis depend upon our ability to determine the etiological factors. This is not always easy.

The family history and personality (as indicated in Table I) are of some interest. The high incidence of neuropathic inheritance is in keeping with the civilian types of psychoneuroses. The incidence of the neurotic types of personality in this series is higher than is generally supposed to be the case in the psychoneuroses. An important reason for this probably is the fact that 32 of the 100 cases received a partial analysis, thus making it possible to disclose the existence of neurotic traits prior to the development of the clinical manifestations.

The precipitating causes, as shown in Table II, are of definite importance. In keeping with the general knowledge on this subject, there are no specific etiological factors. The causative factors embrace a wide range of economic, social, marital, and psychosexual components. In anxiety neurosis and conversion hysteria the causes are relatively superficial, while in anxiety hysteria and compulsive-obsessive reactions they are more profound and are more intimately associated with the psychosexual life. The latter observation is, however, definitely influenced by the fact that 15 of the 63 patients with anxiety hysteria and all of the 13 patients with compulsive-obsessive reactions received partial analysis while only 4 of all the remaining patients in the series of 100 were partially analyzed.

IN THE majority of cases in this series there is more than one precipitating cause, and it is probably true that the clinical manifestations result from the

TABLE II

The Precipitating Causes in this Series of 100 Cases

	Anxiety neurosis.	Conversion hysteria.	Anxiety hysteria.	Compulsive-obsessive reactions.	Occurrence in No. of cases.
Finances, reverses and economic insecurity	2	5	6	2	15
Illness and death in immediate family and of close friends	2	2	12	1	17
Marital infelicity including infidelity	..	5	12	..	17
Other dissensions in family	..	3	..	..	3
Fear of criminal punishment and social ostracism to self or to members of family	..	..	4	..	4
Surgical menopause and other endocrine disturbances	..	1	2	1	4
"Old maidishness"	..	..	5	..	5
Abnormal attachment to certain members of family	..	..	5	5	10
Coitus interruptus and other unsatisfactory methods of contraception	4	..	..	..	4
Fears related to masturbation	3	..	..	..	3
Fears of marriage and pregnancy	1	..	4	..	5
Frigidity	..	..	8	3	11
Impotence	..	..	3	..	3
Incest with sisters	..	..	..	2	2
Homosexual trends	1	..	6	3	10
Anal eroticism	..	..	..	5	5
Sodomy	..	..	..	2	2
Ordinary strain of life and no satisfactory causes	..	..	9	..	9

TABLE III

Modes of Treatment in this Series of 100 Cases

	Anxiety neurosis.	Conversion hysteria.	Anxiety hysteria.	Compulsive-obsessive reactions.	Total No. of cases.
Encouragement	4	4	30	2	40
Suggestion	4	9	48	5	66
Rationalization and persuasion	3	2	10	2	17
Attempts at compromise formation	..	3	25	2	30
Education and reeducation	..	..	12	2	14
Partial analysis	..	4	15	11	30
Partial analysis with amytal narcosis	..	..	..	2	2
Regimen at home, at work and change of environment other than hospitalization	..	2	11	..	13
Hospitalization	..	..	11	..	11
Occupational therapy	..	..	7	..	7
Physiotherapy	..	..	6	..	6
Sedative and tonic medication	5	3	43	6	57
Appropriate contraception	6	..	..	..	6

cumulative action of various factors. It is frequently impossible to evaluate the importance of several existing causes. This is true even when a careful personality study is combined with an accurate chronological determination of the development of the various precipitating factors.

At times it is difficult to state whether the "precipitating cause" is really a cause or only an evidence of disease. This is particularly true of marital infelicities which are not infrequently determined by the subtle neurotic attitudes of the patient. If this be so, it is of considerable therapeutic importance, especially as it points to the necessity of attempting compromise formations. In a large proportion of the 17 cases of marital infelicity in this series, the neuroticism of the patient was the determining cause of the marital discord.

It would appear from this review that, contrary to psychoanalytical trends, ego and herd instinct motivations, as observed in economic insecurity, fears of criminal punishment and of social ostracism, "old maidishness," and similar related factors, play an important rôle as precipitating causes in the psychoneuroses. On the other hand, there is a large proportion of patients in whom the disturbance of the love life undoubtedly acted as a determining cause. The shades of the disturbance varied from infidelity of a spouse to sister incest. It is particularly significant that frigidity was encountered in 11 cases and homosexual trends in 10 cases, and these occurred almost exclusively among the cases found in the anxiety hysteria and compulsive-obsessive reaction groups.

THE modes of treatment employed, as shown in Table III, permit of no definite conclusion although there are many interesting factors. The methods employed are clinical applications and are not to be regarded necessarily as scientifically controlled procedures. They are therefore not entitled to scientific credit nor to scientific criticism. As empiric measures, their value should be judged entirely by their therapeutic success or by their failure.

A mere glance at Table III discloses that a great many methods were used in the same patient, and one unpleasantly associates this with the old "polymorphous pharmacy." Like the latter, however, these methods have, for the present, some definite though empiric value.

Irrespective of the fundamental psychopathology, the relief of symptoms

is always of importance. Some methods, such as encouragement and suggestion, are, like the stomachics and hematinics of old, of distinct benefit in the majority of cases. Encouragement was employed in 40 and suggestion in 66 of the 100 cases. These methods are intended for the removal or correction of symptoms and are particularly valuable in conversion hysteria and in most cases of anxiety hysteria. They are of limited value in some cases of anxiety hysteria and only rarely of real benefit in compulsive-obsessive reactions. Of the other methods intended for the amelioration of symptoms, regimen and hospitalization were used in 24 cases, most of which were anxiety hysterias. In some cases these methods were indispensable and, in the majority of others, of definite benefit. Along with these procedures, occupational and physical therapy proved useful. Somnifacients and sedatives were employed without hesitancy when anxiety was a prominent or acute symptom in any of the cases of this series. In the ill-nourished patients, tonics were used freely.

THE remaining methods which were employed attempt to influence the underlying causes and psychopathological processes. Mention should be made that most of these methods are tinted with elements of suggestion and encouragement, a fact which need not detract from their therapeutic value.

Appropriate contraception is frequently a relatively simple and beneficial procedure, especially in anxiety neurosis.

Rationalization and persuasion, education and reeducation, all of which attempt to utilize the intellectual approach, are probably of limited value as observed in most cases in which they were used. They were employed chiefly in anxiety hysteria and perhaps were useful in preparing the patient for a partial analysis. Rationalization and persuasion are of some benefit in anxiety neurosis resulting from the fear of the consequences of masturbation.

An attempt at compromise formation is of definite benefit in suitable cases. In this procedure, the patient is carefully guided to evaluate the various situations which may have a bearing on his illness. By comparing different possible solutions in regard to their possible consequences, the patient makes a choice in accordance with the changed emotional attitude. This process is tedious but is of considerable benefit to the patient. Attempts at compromise formation have proved of definite value in some cases of marital infelicity, in situations associated with a feeling of economic insecurity, "old maidishness," fear of ostracism, and in related conditions. The great majority of cases treated by this method were anxiety hysteria.

PARTIAL analysis, is, in the author's experience, the best psychotherapeutic approach to the underlying psychopathology and etiological factors. By this method a limited exploration of the unconscious is attempted, first, through formal interviews, then, after some explanation to the patient of what is sought, by a modified free association technic. This method is not to be confused with a full psychoanalysis. It is not a complete investigation of the unconscious but, surprisingly, it is often deep enough to touch upon fundamental processes and achieve considerable benefit. It has the great advantage over complete analysis in not being so time consuming. It proved of definite benefit in most of the cases of conversion hysteria, anxiety hysteria, and compulsive-obsessive reactions in which it was used. In the last named group it is the only method (except complete psychoanalysis) that is worth attempting. In two cases each treatment was preceded by a light sodium amytal narcosis [Yaskin (18)].

The end-results, as shown in Table IV, compare rather favorably with end-results of treatment in many other branches of medicine. The present review does not permit any formulation as to what determines these end-results. In general, it may be stated, however, that the outcome of the treatment is definitely influenced by the type of the neurosis and the modes of treatment.

MOST recoveries were attained in the anxiety neuroses in which the causes could be effectively influenced, and least in the compulsive-obsessive reactions which are accompanied by deep, resistive psychosexual distortion. It is generally agreed that the latter are not uniformly cured even by prolonged psychoanalyses.

TABLE IV

End Results in this Series of 100 Cases

	Anxiety neurosis.	Conversion hysteria.	Anxiety hysteria.	Compulsive -olsessive reactions.	Total No. of cases.
Recovery	9	9	21	2	41
Improvement	..	3	30	8	41
No improvement	..	..	6	3	9
Developed psychoses	..	..	6	..	6
Recurrence	1	2	18	3	24

The recoveries in conversion hysteria, treated chiefly by suggestion and encouragement, were good. The recoveries in anxiety hysteria were better than was anticipated, and the majority of the recoveries in this group were attained by partial analysis and attempts at compromise formation.

Improvement was observed chiefly in anxiety hysteria and in compulsive-obsessive reactions. In the former group the results were due to a combination of several methods among which regimen and hospitalization played a large, though not an exclusive, rôle. In the latter group the improvement was due solely to partial analysis.

The failure of improvement in 9 cases, 6 anxiety hysteria and 3 compulsive-obsessive states, is to be ascribed to the severity of the clinical condition, the failure of cooperation or actual resistance on the part of the patient, and probably, what is most important, to a lack of therapeutic acumen on the part of the physician.

Six patients developed psychoses. This probably was not due to faulty therapy, but to poor diagnostic judgment.

Recurrence was observed in 24 cases, 18 of which were anxiety hysteria. The recurrences were traceable in the majority of cases to the incidence of new or reactivated precipitating causes, and, in many instances, to inadequate treatment of the preceding attack.

Summary and Conclusions

NEUROTIC symptoms are frequently found in association with *organic* disease of the thoracic viscera. These represent the reactions of the neurotic traits of the patient's personality to the organic situations and require a careful clinical evaluation for therapeutic purposes.

The more common thoracic symptoms unaccounted for by any primary organic causes include: (a) Precordial consciousness and pains, disturbances of cardiac rate and rhythm, and fears of cardiac death; (b) cough, irregularities of rate, rhythm and amplitude of respiration, and some forms of bronchial asthma; (c) hiccough and painful affections of diaphragmatic origin; (d) some forms of vasomotor rhinitis, disturbances in articulation and swallowing; and (e) painful affections of the thoracic cage.

For therapeutic purposes the exclusion of primary organic disease is, by itself only, an unsatisfactory criterion for establishing a diagnosis of neurosis or psychoneurosis. For successful treatment it is also imperative to establish an etiological diagnosis. The various thoracic symptoms are only a conspicuous part of the total neurosis. Anxiety is the central symptom of all neuroses and psychoneuroses. The etiology, psychopathology, prognosis and treatment vary with the several types of neuroses and psychoneuroses.

One hundred cases comprising anxiety neuroses, conversion hysteria, anxiety hysteria, compulsive-obsessive reactions, and neurasthenia were reviewed from the standpoint of thoracic symptoms, family history, personality, precipitating causes, modes of treatment, and end-results.

This study is an attempt to emphasize that thoracic neuroses should be managed as neuroses and psychoneuroses. As such they require comprehensive neuropsychiatric studies and utilization of various therapeutic approaches.

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1832 SPRUCE STREET.

ASSOCIATED PHYSICIANS OF LONG ISLAND

Autumn Meeting

October 5

THE autumn outing of the Associated Physicians of Long Island will be held in Queens County, October 5. The clinical scientific session will be provided by the staff of Queens County General Hospital in Jamaica as follows:

"Diverticula of the Appendix"

Illustrated by lantern slides. Ephraim Wolff, M. D., Assistant Visiting Surgeon.

"Diagnosis and Treatment of Peripheral Vascular Disease"

Illustrated by demonstrations of methods and a pathological exhibit. Harry C. Oard, M. D., Associate Visiting Physician.

"Treatment of Uterine Prolapse"

Illustrated by motion pictures. Joseph A. Wrana, M. D., Associate Visiting Obstetrician and Gynecologist.

The Otolaryngological and the Pediatric Services will also present papers, the nature of which has not yet been announced.

The recreational facilities of Queens Valley Golf Club will be available to members all day. The regular dinner will be held at this club and members can expect just as good a time as was provided in Glen Cove in June.

REMEMBER THE DATE
TUESDAY, OCTOBER 5
JAMAICA, L. I.

Kidney DISEASE

MALFORD W. THEWLIS, M.D.

Wakefield, Rhode Island

THE following classification of renal diseases is used in the U. S. Naval Medical School:

1. Glomerulonephritis

(a) Acute
(b) Subacute
(c) Chronic

2. Nephrosis

(a) Amyloid
(b) Toxic
(c) Chemical
(d) Lipoid

3. Arteriosclerosis

A. Without renal insufficiency
(1) Cerebral symptoms
(2) Cardiac symptoms
B. With renal insufficiency

Glomerulonephritis is often associated with infections such as scarlet fever, erysipelas, tonsillitis and rheumatic fever. It is characterized by hematuria. The blood pressure is not regularly increased in this type. Tests for occult blood in the urine will help in the diagnosis of this condition. Granular casts are found, while, in the arteriosclerotic type, hyaline casts are the rule.

The hereditary factor seems obvious in some cases, especially the arteriosclerotic types of Bright's disease. This is usually associated with arterial hypertension. Therefore, the slightest increase in blood pressure should prepare one for a disturbed kidney function. The eyegrounds may show exudative hemorrhage or vascular changes. But the ordinary urinalysis and kidney function tests will not reveal any abnormality at this early stage. As the condition progresses there will be a reduction in the red cell count and hemoglobin.

EARLY studies should include routine urinary sediment counts (Addis). The monograph of Hines presents a simple method[1].

The urea clearance test of Moller, McIntosh and Van Slyke[2] is one of the best indicators for early diagnosis of renal impairment. The urine concentration test is a simple procedure and is accurate. It can easily be done while preparing the patient for a basal metabolism test.

A capital finding in the diagnosis of renal disease is the presence of erythrocytes in the sediment. This can be detected under the microscope. Another simple test, described in this chapter, can be used while preparing the slide for microscopic study.

The creatinine clearance test of Holten and Rehberg[3] is used by some clinicians. Alving and Van Slyke[4] found that concentration tests are sensitive for qualitative detection of damaged renal function but not for measuring the extent of the injury. They found, in chronic nephritis, that the concentration may not decrease while the urea clearance drops to uremic level.

IN ROUTINE predisease studies it is often sufficient to do the urine concentration test, ordinary urinalysis and test for occult blood. If any abnormality is discovered it is advisable to do a urea clearance test to determine the extent of the injury. If there is blood loss four grains of ferrous sulphate can be given

Being part of Chapter XVII (Diseases of the Genito-urinary System) of the author's forthcoming work titled *The Early Recognition and Prevention of Disease.*

daily. It would be far better to prevent anemia whenever possible to do so, and if there is blood loss anemia will sooner or later develop. Adequate proteins in the diet are useful. Nothing could be more unscientific than prescribing a meat free diet for all patients who have increased blood pressure or renal disease.

High blood urea nitrogen, associated with albuminuria and an occasional cast, with the clinical manifestations of weakness, dizziness, mental confusion or stupor may not be due to uremia, as pointed out by Wohl and Brust.[5] They have seen many cases where the urea nitrogen was exceedingly high, associated with disturbances of salt-water metabolism. They point out that this alteration in salt-water metabolism may be caused by (1) loss of body fluids and depletion of electrolytes through bowel, skin or by vomiting; (2) neurogenic reflexes resulting in anuria; (3) kidney disturbances arising from cardiac decompensation or other causes; (4) miscellaneous and little understood disturbances of metabolism.

These authors show that the differences between the renal and extra-renal type of coma is that in the latter the chlorides are diminished while in the renal type they are unchanged. The condition is one of anhydremia. Salt solution is indicated.

ONE of the first indications in the treatment of renal disease is to remove all foci of infection. Some time ago I saw a child of six, who had nephritis with edema, quickly relieved when several decayed deciduous teeth were removed. The tonsils were enlarged but I focused attention on the teeth first, and their removal seemed sufficient. Some time later his father showed a kidney disturbance —albuminuria, casts in the urine—and this cleared up soon after two infected teeth were removed. Apparently decayed teeth can cause considerable trouble even if the apices are not involved.

Addis[6] gives the following types of degenerative Bright's disease:

1. Cryptic type.
2. Mercury, chromium and uranium salts.
3. Unknown toxins derived from fetus in latter half of pregnancy.
4. Toxemia that may accompany any generalized infection.
5. Focal infection is not often associated with any but minor grades of renal degeneration.
6. Mixed infection seen in long standing osteomyelitis with sinus formation tends to produce the waxy kidney.
7. Hemorrhagic type, due to a streptococcal infection.

MANY renal disturbances in pregnancy are undoubtedly due to a pre-existing impairment. We can study the urine by the methods described above to determine any early impairment of renal function. The salt-water balance should be considered in all cases. Tests for chlorides should be made as a routine. While some observers classify the renal lesion of the toxemias of pregnancy under the heading of degenerative types of Bright's disease, McCann[7] states that there is increasing evidence that these lesions should be grouped with the nephroscleroses rather than with the nephroses.

Because of the danger of chronic nephritis resulting from these conditions the pregnant patient should be watched carefully both before and after labor. Many of these patients do well if the metabolic load is lightened; the patient's and infant's weight is kept down by careful feeding. It is quite possible to reduce weight during pregnancy provided the vitamin intake is sufficient. Many patients, pregnant or otherwise, are relieved of arterial hypertension and signs of early kidney impairment by lightening the metabolic load.

THE degenerative types of nephritis or nephroses are sometimes associated with glomerulonephritis. The chief evidences are edema and albuminuria. McCann points out that there is no hypertension or hematuria and that the degenerative changes are confined within the kidney to epithelial structures. Early diagnosis and treatment should be instituted.

Recent studies on edema have shown that the tests for plasma proteins, serum albumin and serum globulin have been helpful, especially in edema. Van Slyke, *et al.*[8] show that if the total protein con-

tent—normally 7 per cent, falls below 5.2 and 5.8 per cent, or the albumin, normally 4.3 per cent, falls below 2.3 and 2.7 per cent, or the plasma specific gravity, normally averaging 1.027, falls below 1.0225 and 1.0235, edema is usually present. The albumin seems to be the most closely connected with edema. These observers state that while urea retention is a warning, and not in itself apparently the cause of uremia, there seems to be reasonable proof that plasma protein deficit is an important direct cause of non-cardiac nephritic edema.

THE general practitioner should resort to this test oftener. He can send the blood to any reliable laboratory for serum albumin estimation and this gives him an excellent clue. It is a reliable index as to whether proteins should be increased in the diet.

These scientists summarize the chief significance of data charted.

Blood Urea Clearance. Measure of intact glomeruli in hemorrhagic and degenerative cases; of renal circulation in arteriosclerotic cases.

Hematuria. Sign of active inflammation in glomeruli.

Hypertension. Sign of circulatory changes. When high and prolonged indicates anatomical changes in small arteries.

Plasma Protein Deficit— Gross proteinuria—Edema. Signs of degenerative syndrome. Accompany degenerative renal changes, with or without glomerular changes.

Andrews[9] notes that disturbing the mineral metabolism, even in the presence of normal kidneys, will produce all the clinical, chemical and histologic features of uremia.

The question of lead causing nephritis has been dwelt upon by McCann[7].

THE common practice of spraying fruits and vegetables with arsenate of lead is widespread and it is not uncommon to find an excess of lead in the urine. Our fruits are not allowed to enter some foreign countries because of the excess of lead and arsenic. There are processes for removing these but they are not always used. The regular bulletins of the Department of Agriculture show specimens which have been condemned by the department because of excessive lead and arsenic contents. The manufacturers get off with a light fine and continue to use the same methods. No doubt considerable damage can be done to those sensitive to lead and arsenic and this must be reckoned with. They may figure among the causes of arteriosclerosis and nephrosclerosis. Fairly[10] showed that a large proportion of the children in Queensland with lead poisoning died of chronic nephritis before the age of 40. He suggested regulations to prohibit the use of lead in paints on toys, furniture, pencils and verandas.

Anemia

ONE of the indications of toxic damage to the organism. Van Slyke *et al.*[8] note that Brown and Roth presented data indicating that anemia is due to injury of the bone marrow, which tissue shares in the constitutional damage that is known to be suffered by the heart, retina and blood vessels. They further quote Brown and Roth as showing that a definite prognosis can be made from the anemia of nephritis. Those with no anemia showed 18 per cent mortality in 2.5 years. Those with 60 and 85 per cent of normal hemoglobin showed 46 per cent and those with less than 60 per cent of normal hemoglobin showed 85 per cent.

This shows the importance of establishing an early diagnosis of nephritis, and it is impossible through the ordinary urinalysis or blood chemistry studies, which are not delicate enough. No urine examination can be complete without a test for occult blood, urine concentration test, a careful microscopic study and perhaps a monograph study [Hines' modification of Addis' method). In other cases the urea clearance test and plasma albumin estimation should be done. A grave responsibility rests on the general practitioner's shoulders because he is the first one to see the patient. If he fails to detect predisease and incipient disease it may be a serious matter.

THE occult blood test for urine is one of the most useful tests we have at our

—Continued on page 459

Clinical Notes

Ice AS A LOCAL ANESTHETIC

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THIS is the story of a general anesthesia, a toothache, and ice. Six years ago, as house surgeon at the Kings County Hospital, Brooklyn, I was privileged to be the chief actor in a very ludicrous situation.

A patient whom we suspected of being diabetic was requested to submit to a blood chemistry. Despite supplication, cajolery, and threats of coercion, she refused to consent, because of her dread of the needle. She finally submitted to the procedure only after signing an operative permission, and with the aid of general anesthesia.

Since then—and many of us have had the same experience, what with modern injection treatments, not to mention minor surgical procedures—this problem of the fear of the needle has kept many a patient jittery and uncooperative, and has jangled the nerves of the most complacent practitioners, but little in the way of material aid in assuaging the pain of injection has come to my attention.

Which brings us to the story of the tooth, said tooth one night deciding to aid and abet insomnia for no better reason than that it was abscessed.

HAVING taken the usual medicaments for pain, which brought no relief, I turned to the ice bag. The ice bag froze my cheek with the numbing effect of cocaine, but did not in the least influence the persistence of the plaguing pain.

It was at this moment, when the rosy-fingered dawn crept softly into my bedroom, and I had decided to make a sacrificial offering of my tooth, that it occurred to me the freezing effect would relieve, even though only to a slight degree, the pain of an instantaneous injection, such as a hypo or a quick stitch in minor lacerations.

I tried the procedure that day and found the idea sound. In the series of cases in which I have since tried it, it has definitely diminished the pain of injection.

I have used the following procedure with unalloyed success: I wrap a cube of ice in sterile gauze which has been soaked in an antiseptic solution—iodine, mercresin, or any of the usual agents—hold the cube in place for one to two minutes, and then, immediately upon removing the ice, carry out the process of injection.

I have found it well worth while to expend the few extra minutes necessary to induce this local anesthesia, which can be used in procedures where ethyl chloride and novocaine are not indicated or may at the time be unavailable.

In conclusion, I can say that the ice cube is a very efficacious local anesthetic for instantaneous procedures, especially in children.

TRIGEMINAL NEURALGIA RELIEVED WITH ERGOTAMINE TARTRATE

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IN 1935, Tyler[1] reported the successful alleviation of tic douloureux with weekly intramuscular injections of 1 cc. ergotamine tartrate ampule solution in one patient who had suffered intermittently from this condition for about three years. He was induced to try this drug in the treatment of his patient because of the similarity in the location and type of pain as well as other symptoms to the symptoms exhibited by many patients suffering from migraine and the excellent results reported by Ignelzi[2], Lennox[3]; Brock, O'Sullivan and Young[4], Logan and Allen[5] and others in relieving the latter condition with 0.5 cc. ergotamine tartrate ampule solution injected subcutaneously at the onset of a seizure followed in one or two hours by a second injection of 0.5 cc. to 1 cc. if the first dose was insufficient to stop the attack.

Later, in 1935, Brickner and Riley[6] reported that the subcutaneous injection of 1 cc. ergotamine tartrate ampule solution given early in an attack almost uniformly caused the disappearance of symptoms in autonomic faciocephalalgia in one to two hours; subsequently oral dosage with 1 mg. ergotamine tartrate twice daily reduced the frequency and intensity of seizures. This new diagnostic term—autonomic faciocephalalgia—they applied to a symptom complex somewhat resembling both migraine and trigeminal neuralgia, but differing from these conditions in certain important characteristics. This disturbance was characterized by recurring attacks of pain the chief focus of which was the face, although other parts of the head were sometimes included, and the presence of other symptoms definitely referable to the autonomic nervous system, such as unilateral epiphora, swelling of the part of the face in which the pain appeared, or change in temperature or color of that region.

SUBSEQUENTLY, in the treatment of patients with atypical facial neuralgias, Merwarth[7] found that daily doses of 1 mg. ergotamine tartrate in combination with phenobarbital relieved the painful symptoms, whereas phenobarbital used alone previously had failed to do so. Furthermore, with the continuation of this medication his patients remained free from further seizures for as long as six months.

The results reported by the above investigators with ergotemine tartrate, for the relief of head pains of the neuralgic and migrainous type, encouraged me to try this drug in the following particularly distressing case.

Report of Case

O. C. male, white, age 48, engineer.

Chief complaint: Pain in the region of the right cheek and right eye, principally along the course of the ophthalmic and maxillary branches of the trigeminal nerve.

History: Scarlet fever nine years ago; no complications or sequelae. "Liver trouble" three years ago, characterized by headache, vomiting and epigastric distress, relieved by calomel and citrate of magnesia. Tonsillectomy six years ago under local anesthesia.

Present illness: Onset six years ago, beginning with a sore throat and tonsillitis, following which he experienced severe attacks of pain in the region of the right cheek and eye. After the first acute attack subsided he had his tonsils removed and was free from pain for a period of four years, when it reappeared and a change in eyeglasses was advised.

This helped him some but did not entirely do away with the attacks. These recurred about once every two weeks and left him so nervous and upset that he was unfit for work.

On the morning of April 19, 1936, he awoke and found that his father, who was living with him, had died in his sleep from what was apparently a cerebral hemorrhage. That night he had an unusually severe attack of pain in his right cheek and eye. On returning to work a few days afterwards, he was notified that he would receive a 25 per cent pay cut. He had another severe attack that night and required morphine hypodermically for sleep. These attacks recurred as often as three times a week and he states that, during this time, never a day passed when he did not take some analgesic for the pain. He was given some ½ gr. codeine tablets. Twice the pain was so bad that he took as much as two grains with no relief. Heat applied locally helped a little. The man was miserable, lost weight, was sleepless, his appetite was gone and he stated that he had not actually had a "well day" since before April 19, 1936.

Physical Examination: Blood pressure 142/85. Eyes: pupils equal and reacting promptly to light and accommodation; eyegrounds negative; no ptosis of the lids and no local tenderness on palpation of the periorbital region. The head and face were symmetrical. The general physical examination, including reflexes, revealed a reasonably normal state.

Diagnosis: Trigeminal neuralgia.

Treatment: The patient was seen first on July 11, 1936, about three months after the onset. He was given a prescription for vitamin B_1 concentrate and advised not to worry and to try to arrange his life to be able to enjoy it more and relax. He was given ergotamine tartrate tablets 0.001 gm., to be taken instead of analgesics and narcotics, in doses of one tablet repeated in two hours, if necessary, for the relief of pain.

Progress and Result of Treatment: The patient was seen again October 2, 1936. He had gained 6 pounds, ate well and felt fine. In the three months that had elapsed since his first visit he had taken only twelve ergotamine tartrate tablets. His last attack of pain was in August and was relieved by three tablets taken over a period of five hours.

Discussion

THE man, a college graduate, and introspective by nature, promised to be faithful to the routine outlined for him. From his story, on his second visit, I felt that he had kept his promise. He followed a healthful routine, tried his best to readjust himself to his decreased income and made some attempts to enjoy himself. On Sundays he went bathing and motoring with his family. During the week, at work, he seemed to readjust himself to his job, which had become distasteful after the pay cut in April.

Last winter, in January, 1937, I had occasion to treat another member of his family. At this visit, I discussed his health with his wife, who told me that at Christmas, 1936, his salary had been raised to its former figure and in addition he had received a good sized bonus. His health was excellent and he had not been taking any medication for over a month. I feel, in this case, that there is a large element of hysteria, but, whatever real organic pain this man had was successfully controlled by ergotamine tartrate.

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24 SUBURBAN AVE.

SPECIAL ARTICLE

JOINT RESOLUTION 188

At this point they came in sight of thirty or forty windmills . . . Sancho Panza hastened to Don Quixote's assistance as fast as his ass could go. —Cervantes.

WHEN Senator Jim Ham Lewis undertook on June 10, in behalf of the President, to "condition" his Atlantic City A.M.A. audience to the more abundant medical life contemplated in certain quixotic quarters, he made a dubious impression on many uneasy hearers who, upon Jim's entrance, could not rid themselves of the sense of a county fair atmosphere in the gay nineties, with curiously interesting characters plying their magical arts on the side lines. Although this feeling was hard on the speaker the fault was his own, for much of his address seemed almost incoherent and redolent of a quality not exactly the equivalent of candor; moreover, subsequent events have tended to show the soundness of his audience's reaction, as we shall proceed to show. One thought of spoofing. Something seemed to be withheld, while the politician, himself one of the authors of the Social Security Law, sought to intrigue his hearers with the thought that here was one schooled in the devious designs of uplifters upon whom the doctors could depend for understanding and protection — one whose subsequent acts should be endorsed trustfully — one wholly unallied with political side-show gentry.

Jim uttered at Atlantic City, among other things, the following honeyed words:

> Instead of the government taking charge of directing the doctor as to what is to be done in the matters where his science is of first application, I want the government to place the doctor in the position where he can direct the government . . .
>
> I do not think it wise that you doctors should have this system of your compensations put under the control of gentlemen who are to be appointed to be in control of the board and to be given the domination of these privileges as an opportunity for political office . . .
>
> I therefore, my brethren, can't accept—until I get better advices I decline to accept—that this board that is to be constituted is to be made up of political appointees called Democrats or Republicans or whatever designation you please, whose mere political appointees shall have the right to name those who shall sit as to your amount of fees, have right to revise your bill, consider your services, passing judgment and review on them. I cannot accept it . . .
>
> What method do you advise by which you shall not be put out of your character as doctors and subjected to merely a set of servants under the orders of those who call themselves political appointees? I can't take the latter. I am in revolt, and I burden you by coming over here and asking that I may be heard, because on this particular feature I am so much at variance with many around me that I fear I must confide to you that there is a great deal of distraction, almost sometimes amounting to violence in dispute . . .

BUT at the end of the address the bag, so to speak, held by the speaker still contained, presumably, a cat. In fact, something like a cat's claw was glimpsed once or twice. It was well that Jim held the bag pretty tightly on that occasion, for if the cat had then been released both cat and bag-holder would assuredly have shared a tragic fate. The doctors are notorious, anyway, for the grace and tact and forbearance with which they habitually entertain curious guests, as in the days when "ingenuous" scouts of the compulsory health insurance movement were deployed before medical or-

From the Editorial Research Department of the MEDICAL TIMES.

ganizations for "conditioning" purposes. Anyway, Jim and his bag got away.

On July 28, in the Senate, Jim opened his bag and out jumped a cat indeed in the form of Joint Resolution 188, "To provide medical aid for the needy and the stricken with illness who are unable because of poverty to provide treatment and hospitalization; also to establish all licensed medical practitioners as civil officers of National Government."

The basic aim of the resolution, undoubtedly a Social Security blueprint of future aims, is the regimentation of all physicians and hospitals. Jim recently made a trip to Russia, presumably to study large-scale technic in a universalized Tobacco-Road and coolie set-up; we wonder whether Joint Resolution 188 is in any sense the fruit of that sentimental journey and of the kind attentions he received when ill for a month during 1935 in Moscow.

UNDER the terms of Jim's resolution the federal government would assume all responsibility and expense for the care of the indigent sick and injured, the states being entirely relieved of the job. All doctors and all hospitals would be controlled by rules and regulations to be promulgated by the Social Security Board. The entire profession would become a federal civilian medical corps. Each and every doctor would be a civil officer of the United States government. It would be a *draft* into a federal medical relief service for life, under a General Hugh Johnson type of organizer and chief. Senator Lewis, at the At'antic City meeting, expressed his personal opposition to the setting up of a federal system of examination under which practitioners would have to qualify for service. Jim, it seems, would corral every doctor registered locally in his native state; nothing provincial about Jim; he believes in large-scale operations. Comple'e freedom of choice would compel any physician to respond to a demand for treatment by any person. So also the physician would have free choice of hospitals for his patients. Both physicians and hospital officials would be subject to a fine of not more than $1,000 or imprisonment for not more than three months, or both, for any violation of a law growing out of the Joint Resolution. Bills for services would be paid by the Social Security Board, within its discretion. Obviously, a huge official organization would have to be set up, at an enormous cost to be derived from additional taxation. Such a scheme would logically call for the services of all dentists and nurses as well as all doctors, and for payment for medical and surgical supplies and other needs of the destitute sick. Approval of Senate, House and President would be requisite.

ONE seeks a key to the nature of such a man as Senator Lewis. We incline to ascribe to humor much that others might charge to duplicity. A key may also be found in some outstanding facts in his career. Thus we find that he is a member of the Knights of the Round Table, London, the King of England himself presiding on the occasion of his election to membership. Here we have the idealistic, Galahad-like character of the man whose flaming pink whiskers stream out like a banner symbolizing spiritual zeal. Another side of this versatile man's nature we find suggested in a little book published by him in 1912, namely, *A Hand Book on Elections.*

What is the real issue? Our cockeyed social order consigns millions of persons to the industrial scrapheap and approves pay insufficient to maintain the buying power (including medical service) of the employed. Drafting the doctor as a medical nursemaid to the underprivileged and exploited populace and other purely palliative systems of relief furnish no answers to the challenge of social injustice. It's a racket. It's *laissez-faire* at its rankest. It's a farcical attack upon a *windmill!*

Cervantes wrote his book in vain!

—Continued from Page 453

disposal. Stone and Burke[11] give the method of performing this test with a 1 per cent solution of orthotolidine[12] in chemically pure methyl alcohol and a mixture of one part glacial acetic acid and two parts of commercial hydrogen peroxide. The technic, according to Stone and Burke, is as follows: 15 c.c. of urine is centrifugated at about 1,500 revolutions per minute for five minutes. The supernatant fluid is poured off. A portion of the sediment is prepared for microscopic examination in the usual way. To the remaining sediment two drops of the orthotolidine solution is added plus two or three drops of the acid-peroxide solution. In the presence of blood cells aggregating 100 per cubic millimeter of sediment (approximately 1,350 per cubic centimeter of urine) a greenish blue color develops, lasting about one minute. In the presence of from 300 to 500 red cells per cubic millimeter of sediment (approximately 4,000 to 6,500 cells per cubic centimeter of urine) a deeper blue color develops lasting about one minute. In the presence of larger numbers of red cells, aggregating 1,000 per cubic millimeter of sediment (approximately 13,000 per cubic centimeter of urine), as in hemorrhagic Bright's disease (glomerulonephritis), a deep blue color develops lasting two minutes or longer.

Hurst[13] gave his opinion about phosphaturic and phosphatic calculi. He feels that some individuals have more acid in the urine than the average, and this also applies to the constitutional condition which is associated with phosphaturic calculi. Hurst advises all patients who have a constantly alkaline urine to take acid sodium phosphate and alkalis should be given if the urine is too acid.

Randall[14] studies every case of "primary" renal stone by searching for focal infection, studying allergic reactions and dietary habits, and instituting the necessary laboratory studies for metabolic disorders. He insists that local pelvic infection should be combated. The "secondary" stone is another problem. He feels that the cause of this condition is an intra-renal one and nothing short of perfect drainage of the pelvis and its sterilization will be of any permanent benefit.

THE question of mechanical factors in nephritis is important. Mackenzie[15] shows that these mechanical factors interfere with renal drainage and are part of the predisposing pattern by causing stasis in the kidney, pelvis or ureter. This stasis causes infection of the renal pelvis. Mackenzie gives the following abnormalities:

1. Stone.
2. Growth and inflammation in neighboring organs—pelvis, and also following operations, radium, etc.
3. Pregnancy.
4. Sagging or ptosed kidney.

Out of 13,000 admissions, Mackenzie found 36 per cent was diagnosed as a definite renal condition and 63 per cent of these were of the obstructive type—pyelitis, pyonephrosis, nephroptosis, hydronephrosis. The incipiency was in early life.

He suggests that every infant and child who exhibits repeated attacks of fever with so-called gastro-enteritis should be carefully examined, with repeated urinalysis. Backache should be carefully investigated in adolescent cases. He suggests that these children should rest in bed, fluids forced, urinary antiseptics used and later a ketogenic diet before operation. Older children should rest at crucial periods of the day—early afternoon and middle of the afternoon for one or two hours. Weight should be increased if indicated and abdominal supports or belts to hold both kidneys are prescribed. These are tried over a long period with prolonged rest and many of them escape operation.

MACKENZIE points out that if the kidney is anchored in a position of poor drainage by fibrous bands or as a result of inflammatory reactions, it is much better to free these bands surgically—conservative plastic surgery of the kidney and ureter. It should be remembered that pyelitis often means obstruction.

Bibliography to this article on Kidney Disease listed on page 468.

Economics

Department Edited by Thomas A. McGoldrick, M.D., LL.D.

A SHUDDERY WORLD

IT is a dismal view that Professor Walter Pitkin takes of the possible future constitution of our society. He sees the 10,000,000 Americans who are now socially and economically *almost* at a Chinese coolie level of progress and culture as easily forming the nucleus of a real coolie class in the future. Pitkin estimates that 288,333,000 persons could exist in the United States on the Asiatic level of two acres per head, and thinks that the country could take care of a vast coolie population (350,000,000) if its ten important crops were increased 47 per cent in production, and if some of the poor land were to be brought back into production.

Much "cleverer" politicians would be called for in such days, if they should ever come. Their job would be to distribute poverty and make it work—to run the country along the lines of a vast settlement house for the underprivileged hordes and *rationalize* the wretched system.

What would be the status of medicine under such a dispensation? Perhaps we of today don't know what trouble is.

A. C. J.

CLINICAL RESULTS OF ANTERIOR PITUITARY THERAPY IN CHILDREN

A. WILMOT JACOBSEN and ARTHUR J. CRAMER JR., Buffalo (*Journal A. M. A.*, July 10, 1937), used anterior pituitary extracts in a variety of conditions such as dwarfism, infantilism, hypogonadism, obesity of the Fröhlich type and a few of mental or emotional imbalance in ten children. All these children received careful investigations, which included blood studies with chemistry as indicated, basal metabolism determinations, x-ray examination of the osseous system and other special examinations when they were indicated. The authors have repeatedly observed that combined anterior pituitary and thyroid therapy is apt to produce more striking improvement than either extract used alone. Whenever hypogonadism is a prominent feature they found it advisable to give in addition to other therapy the anterior pituitary-like substance derived from pregnancy urine. This usually produces a fairly prompt effect, as indicated by descent of testes and an increase in the size of genitalia in males, and increased breast development and onset of menstruation in females. Parents frequently report a variety of desired behavior changes beginning almost immediately after the start of injections, but most of these observations are due to reaction of the eager parents themselves rather than of the patient. Later on, however, when the child's physical proportions begin to approach normal, there can be no doubt that there occurs a very real change in mental outlook and secondarily in behavior.

Proceedings OF THE
ASSOCIATED PHYSICIANS OF LONG ISLAND

Scientific Session of the 117th Regular Meeting, at the North Country Community Hospital, Glen Cove, N. Y., June 15, 1937

A REVIEW OF OUR NINE YEARS OF OBSTETRICS IN THE NORTH COUNTRY COMMUNITY HOSPITAL.

ALBERT M. BELL, M.D.
and
RICHARD JONES, M.D.
Glen Cove, L. I.

THE Obstetric Service thought it might be of interest to the members of the Associated Physicians of Long Island to give them a brief summary of the work done in this department during the period from Sept. 15, 1927, when the Hospital opened, up to May 15, 1937—altogether nine years and eight months.

Our total deliveries number 3060, with a maternal mortality of 6, or 1 in 510 cases. At this time my chief aim is to elaborate somewhat on these bare statistics.

In the first place, you must realize that almost all of this work was done by men in general practice, with a very few cases in the hands of obstetricians. This is attested by the fact that we have had 56 different doctors deliver cases here, although the attending obstetric staff numbers six men.

The next thought is—how many of these were abnormal cases, requiring other than normal delivery? Our statistics show the following modes of delivery. 2210 had normal deliveries while 850 were in the abnormal class, divided as follows:

Forceps delivery 677—55 high, 124 medium and 498 low
Breech 110 cases
Versions 24
Cesareans 39

As I have previously stated, we have had six deaths. A résumé of these cases would, I believe, be of interest.

Case No. 1

Mrs. I. P. Admitted Mar. 26, 1930
Primipara 33 years of age

History on Admission—Had not seen a doctor during pregnancy; expected to be cared for by a midwife. Came to the hospital 14 hours after a spontaneous rupture of the membranes, not in active labor, but had had three vaginal examinations by the midwife. Her pelvic measurements were as follows: Interspinous 24 cm. Intercristal 28 cm. Ext. Conjugate 20 cm. Oblique 20½ cm. Head not engaged but baby did not seem abnormally large, so it was decided to allow patient to go into labor, with a feeling that the baby could be delivered normally. Twenty-four hours after admission pains at 5-7 minute intervals but not severe and cervix about one finger dilated. Six hours later a consulting obstetrician saw patient and also thought that the head would come through the pelvis and advised morphine and rectal anesthesia.

Read before the Associated Physicians of Long Island, Glen Cove, N. Y., June 15, 1937.

Finally in another twenty-four hours the cervix was fully dilated; head in ROA position, quite well moulded and slightly engaged. Patient was tiring and delivery seemed indicated. I attempted delivery with axis traction and open blade forceps but little progress was made. The consultant tried the same procedure with no success. As the patient's pulse was increasing in rate we finally decided upon a craniotomy. Version was decided against as the dry uterus was quite tight about the baby. Even after craniotomy and collapsing the skull we could not deliver with either forceps or heavy lion-jawed forceps. The patient's condition was becoming rapidly worse, so in desperation a version was done with great difficulty and after much pulling the baby was finally delivered. During delivery the patient was receiving intravenous glucose and saline and stimulation. The mother expired about twenty minutes after the birth of the baby. Death was due to shock, but we also considered the possibility of having ruptured the uterus when the version was performed. After this terrible experience we wished we had forgotten the contraindications for Cesarean delivery and at least have given the woman a chance for her life before we had gone so far that we could not turn back.

Case No. 2

Mrs. S. J.	Admitted June 2, 1930
Para III	21 years old

Her two children were 3½ and 2 years of age. Patient was seven months pregnant, very desperately ill; weighing 65 pounds, pulse 130 to 160. Had been in bed for five weeks before admission with a condition diagnosed by a physician as whooping cough. Examination of chest revealed a very advanced terminal tuberculosis. Patient was in labor, cervix one and a half fingers dilated. Four hours' labor fully dilated the cervix; and as the membranes ruptured the cord prolapsed; no pulsation was felt but a low forceps delivery of a stillborn three and a quarter pound baby was done. The mother was in extremis—almost pulseless, and expired ten hours after delivery.

This death was really a medical one, but also a reflection on the medical men who permitted any pregnant woman to present such a pitiful picture.

Case No. 3

Mrs. E. G.	Admitted June 9, 1934
Para I	Age 25 Yrs., 8½ mos.
History on admission	Chief complaint: shortness of breath and restlessness

Previous History—Had three attacks of rheumatic fever before she was 14 years of age. At that time her heart was known to be damaged but the patient had had no difficulty, in fact had almost forgotten she had a cardiac lesion until the last month.

Last menstrual period Sept. 15, 1933. Some nausea and vomiting for three months, then in good health until present breakdown.

Present History—Three weeks ago the patient began to be dyspneic, orthopneic, to cough and to have palpitation. No pain. This had grown steadily worse in spite of rest in bed and digitalis. Admitted with diagnosis of rheumatic heart disease—mitral stenosis; pregnancy.

Cardiac consultation was as follows:

A. Etiological: Rheumatic fever — inactive
B. Anatomical—Carditis
C. Physiological—sinus tachycardia
D. Functional class # 3

"In view of active carditis the outlook is poor. Would recommend plenty of morphine to aid in rest and after a few days do a Cesarean under local anesthesia."

This procedure was followed for three days with little improvement in the general condition, so on June 4th, with novocaine blocking and a little gas-oxygen when the uterus was opened, a Cesarean operation was performed and a living baby delivered. The patient's postoperative course was stormy, pulse kept very rapid, orthopnea persisted and on the third day showers of crepitant râles were heard through the right lung and scattered fine moist râles throughout the upper left lobe anteriorly. Patient died a cardiac death four days postoperative.

This tragic case presents a problem that is very difficult to answer. Any obstetrician would have felt he was very radical to terminate this pregnancy during the early months, and yet when symptoms appeared fatality followed.

Case No. 4

Mrs. J. B.	Age 39
Expected Labor	White
Jan. 16, 1936	Para. III

Previous History—Cesarean section twelve years ago. Two normal pregnancies since. The rest of the past history negative. Patient began labor at 11 P.M. on Jan. 16th, 1937—membranes ruptured at 1 A.M. Jan. 17th. Admitted Jan 17th at 9:30 A.M.—bloody show—Pain every 2-4 minutes. Complained of feeling chilly; temp. 97.6—Pulse 136—Resp. 28. Examination revealed lips cyanotic—fetal heart tones not heard—fetus in transverse position—cervix not felt. Diagnosis—Breech (confirmed by x-ray).

Patient seemed to have pains during the day, but made very little progress. Given morphine gr. 1/6 at 8:50 P.M. for rest. At 9:40 she had a severe chill, lasting 30 minutes. Temp. rose to 106.2 and it was deemed best to do an extraction of the fetus.

Foul discharge—vaginal examination revealed the cervix to be completely dilated except for a thin anterior lip. The buttocks of the fetus were pushed up and with some difficulty the legs were grasped and brought down. It was then seen to be a macerated fetus and it was extracted without difficulty. Placenta examined: no infarcts noticed.

Following the delivery, patient ran a septic temperature and pulse. Temperature ranged between 99-103; pulse—110-130 daily. X-ray on Jan. 19th showed scattered mottling throughout suggestive of bronchial infection, a stage of bronchopneumonia. Blood cultures—1st day sterile—2nd day showed colony of pneumococci. Vaginal culture—gram neg. *B. coli.* Patient during this time was given the usual supportive treatment: infusions, caffeine, Fowler position, etc. Given transfusion of 225 c.c. of blood by Scannell method. Lapsed into coma and died Jan. 22, 1936.

Autopsy— Anatomical Diagnosis

1. Putrefactive endometritis
2. Hypostatic pulmonary Congestion
3. Early cirrosis of liver
4. Acute glomerular nephritis

Case No. 5

Mrs. J. M.	Age 29
Expected confinement April 6, 1937	White
	Gravida #2

Past History—Negative.

Present Pregnancy—Nausea and vomiting. first three months.

Well until February, when she began having headaches, intense itching over entire body, sudden rise in blood pressure, frequent nosebleeds. Patient kept in bed from March 1st until March 12th, without any improvement. She was admitted to the hospital on March 16th—Temp. 99; Pulse 92; Resp. 20.

Physical Examination— Negative except for slight yellowish tinge to sclera and skin. Chest. neg.—Heart, neg. B. P.—142/96. Pelvic measurements normal. Fetus about 8½ months size, vertex presentation, F. H. heard RLQ. Seen by an obstetric consultant who felt that the patient was a nephritic rather than a true pre-eclampsia. Advised blood chemistry and blood study for possible dyscrasia, glucose infusion, intake and output.

NPN 31.8 mgm.
RBC—4.340,000
Hem.—95%
Platelets—220,000
Coag.—10½ min.
Bleeding Time—2½ min.
Urine—1.026—Acid — Alb. 2+ — Sug. and Acetone—neg. Mic.—Many RBC and few WBC.

Patient went into labor in the late afternoon of March 19th. Progress slow. General condition—fair. Taken to the delivery room 7:30 P.M., March 23rd. Given a few whiffs of ether. Delivered normal, living female baby weighing 4 lbs., 8 oz. Following delivery patient's condition good. Slight flow continued; sent to room; fundus massaged; seen by attending physician. Fundus would become firm and then relax. From 9 A.M. March 23rd to 7:30 A.M. on March 24th patient was treated vigorously for shock and hemorrhage. Packed, given infusions, also three indirect blood transfusions, thromboplastin and a placental coagulant. Patient expired March 24th.

Case No. 6

Mrs. R. L.	Gravida # 7
Italian	Expected delivery
Age 38	June 6, 1936

Past History—All deliveries normal.

Medical and Surgical History—She had had high blood pressure for over a year.

In 1933 patient was in hospital for a ruptured varicose vein.

Admitted to Obstetrical Department on March 3rd at 1 A.M. Pains weak—every 10 minutes and irregular. Physical examination revealed an obese Italian not appearing to be in good health. General condition poor; dental hygiene poor. Lungs, clear. Heart, enlarged to the left, sounds of fair quality. B.P. 248/120. Abdomen: uterus symmetrical; enlarged almost to xiphoid process. Fetal heart R.L.Q, 100. Head not engaged. Membranes intact. Extremities—1+ pitting edema of both. Urinalysis—Amber—Acid—1.020—Alb. 2+—Sug. and Acetone—neg. Mic.—WBC. and RBC's; also few granular casts. NPN—20.7. Creatine—2 mgm.

Patient made very little progress; pains were rather irregular and of short duration. Blood pressure remained very high, and she complained of severe headaches. Dr. Bell examined patient at 12 P.M. on March 3rd. Cervix large—one finger dilated—membranes ruptured with clamp. Pains continued weak and irregular until 7 P.M. that night. Patient then went into active labor.

Delivered a normal living male baby at 10:45 P.M. Following the delivery of the placenta she had a profuse hemorrhage estimated at 1000 c.c. and went into moderate shock; pulse rose to 124. Bleeding was controlled by massage and with gynergen and pituitrin. Gave 1000 c.c. of 10 per cent glucose. Pulse dropped to 104. At 12 P.M. large clots expressed from vagina; slight oozing still persisted; gynergen given and bleeding stopped. At one A.M. patient was restless, skin moist and clammy. Patient seemed somewhat dyspneic; complained of sandbag on abdomen. Pulse fluctuating. Heart sounds regular but distant. Pulse 120 at 1:50 A.M. Patient became cyanotic, pulseless, gasping for air; unsuccessful attempt to start another infusion; intracardiac coramine futile. Patient pronounced dead at 2:10 A.M.

Although the total number of deaths are insufficient to draw any conclusions, hemorrhage still remains our biggest problem in obstetrics. The Obstetrical Department is proud to say that sepsis was a small factor in the total number of cases we have presented.

Medical conditions were undoubtedly also of great importance.

Conclusion

IN CLOSING I want to say with pride that we are very pleased with our Obstetrical Department and anyone who is interested in seeing it and our equipment will be welcomed and shown anything he is particularly interested in.

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DEATHS FOLLOWING *Appendectomy*

RICHARD DERBY, M.D., F.A.C.S.

and

MYRON R. JACKSON, M.D.

Oyster Bay, N. Y.

IN presenting the following report there is no intention of proving anything. The cases are to be presented as they appear on the records with but a minimum of editing. These cases represent the deaths following operation for acute appendicitis. They include all deaths following operations made with that provisional diagnosis or where that condition was found. They readily fall into three groups.

1st. Those cases dying of the spread of infection in the abdominal cavity.

2nd. Those in which the abdominal infection continued but was not the most serious disease.

3rd. A group in which the abdominal infection played a negligible part.

Examination of the first group reveals 21 cases. The youngest 3 and the oldest 59. 8 females and 13 males. Four W. B. C. below 10,000. Two above 20,000. Lowest Polys 72 per cent. The shortest period of time 12 hours before operation. The length of time varied from 12 hours to 16 days. Twelve did not have catharsis. 17 were ruptured. One which was not ruptured was the center of an abscess. Only two were abscessed. All were drained. Two McBurney incisions. Let us sample these cases for further instruction.

T. R., 43, male, banker. Was sick a week; had 8400 WBC with 72 per cent polys. He had not had a cathartic, had not ruptured and showed general peritonitis. He had a spreading peritonitis for five days and died.

H. P., a young boy, came to hospital with appendicitis and pneumonia. X-ray revealed the pneumonia, after three days. At the end of five days it was necessary to open a large appendiceal abscess. He lived five days more.

M. C. A three-year-old boy had chickenpox and was seen by a doctor. A day or two later his mother assumed the abdominal pain to be due to the chickenpox. After seven days he was admitted to the hospital. After 24 hours of preparation he was drained without success and he lived but two days.

IN the next group we find eight cases.

M. H., 69, a known hypertensive, who had treated herself with castor oil and salt poultices for 24 hours. At operation she had a ruptured appendix with general peritonitis. She died a cardiac death after four days.

Bermay, a boy sick six hours. He had an empyema of the appendix and developed a pneumonia in 24 hours which caused his death in five days.

C. H. Suppurative appendicitis and D. T. Five days postoperative.

J. E. We did not know just where to class this man. A big man, 58 years of age. A periodic drinker. He came in after a short illness with appendicitis. The operation was difficult. He took his anesthetic badly. There was no cecum or ascending colon. The appendix was acutely inflamed and attached to the colon at a place high up on the right side, where the hepatic flexure should be. Closure of the abdomen was not too satisfactory. Death occurred 23 days later, after a series of complications, including partial evisceration, at which time the abdomen was clean. Then followed infection of the wound, deep infection coming around from the retroperitoneal space. An ischiorectal abscess supervened and finally abdominal infection localized to the right side. Blow-out of cecum and hemorrhage.

B. R. Walked into a doctor's office on his way to tennis after a week of discomfort, especially urinary frequency. At operation, acute suppurative appendicitis causing a deep pelvic abscess. He did well for three days but crepitation was noted on the fourth day and he died of a gas infection four days later.

R. S. Had a ruptured appendix with general peritonitis. He had a partial separation of the wound. An ileostomy was followed by pneumonia and purulent pericarditis.

R. K. Died of pulmonary edema 24 hours after the operation for ruptured appendix. (Bronchial and cardiac asthma).

J. H. A 47-year-old man had a history of ulcer. He had an acute appendix and did fairly well until an enema was given on the third day. His course was then downward and he died in six days. Autopsy showed a serous peritonitis with distention. Serous pleuritis and pericarditis. Early pneumonia.

THE third group contains all the others. The largest single group within this group are those that died suddenly.

J. W. Died suddenly nine hours after operation for acute appendix without known cause.

R. M. 5 years; died on the table from respiratory failure while getting open ether.

A. S. 24 years; died apparently of cerebral accident while on table. Postoperative diagnosis acute salpingitis.

W. G. 22 years; died on sixth day after operation for ruptured appendix with general peritonitis. He had done

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very well up to this time, T. P. R. being normal; undoubted pulmonary factor.

R. D. 35 years; pulmonary pathology fifth day.

F. P. 35; died the second night after two hours of excitement and restlessness.

P. T. 57 years; died on the third day; gangrenous appendix.

Two cases eviscerated and went on to die; both were men. One, F. N., 52 years, had been out of work two years with arthritis. Back at work one day he developed an acute appendix. He did well until the tenth day. Drain out on the 7th, sutures on the 8th, he lived 5 days, dying of peritonitis.

The second was a known syphilitic. He also opened on the tenth day. He died of peritonitis on the eighteenth day. He was not drained.

Two patients died of T. B. complicating appendicitis. Both were known to have it prior to operation. One died on the 24th day and the other after the 22nd.

One case was operated upon for an acute exacerbation of a chronic appendix and had an inflammation of her ileum. She died with a postoperative type 1 pneumonia, septic after three days. This case was the first of a series of similar cases operated upon with similar findings during an epidemic of grippe.

H. F. Developed a sinus after operation which resisted every effort including three operations. He died after two years.

C. C. Died two months after an appendectomy of Hodgkin's disease.

G. C. 12 years of age; was admitted after five days of abdominal pain. She had always bruised easily and presented many fine purpuric spots over a hot, dry body. At operation the appendix was surrounded by blood clot and wrapped in omentum. There was some excess of bleeding. The patient lived but a few hours. Temp. 106, pulse 160, WCB 19,000, 96-320,000 Platelets. Coagulation 1 min. The pathologist's report without section: The surface is roughened and discolored. The serosa has been partly stripped off. The tip is covered with a fibrinous exudate.

N. J. Was operated upon during the onset of a pneumonia and died 24 hours later, and so we have: 969 cases—45 deaths. 21 of spreading peritonitis, 8 of spreading peritonitis plus serious disease, 16 of various other causes, the operation precipitating the death.

It has been a pleasure to talk to you this afternoon and you are assured that questions will be glady answered as fully as knowledge permits.

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TWO CASES OF *Blood Dyscrasia* WITH APLASTIC BLOOD PICTURE

RAYMOND E. LEASE, M.D., Oyster Bay, N. Y.

Case No. 1

MRS. S. P., female, married, 25 years of age, was hospitalized April 15, 1929, with a provisional diagnosis of purpura hemorrhagica. She complained of a petechial rash over chest and extremities for 19 days, coryza and cough with fever one week, and menorrhagia for two weeks. She began to have her menstrual period on time on March 31, with a profuse flow containing blood clots and lasting up to the time of admission to the hospital. The petechiae and purpuric spots preceded her menstruation by four days.

Physical examination upon admission showed her to be very pale, with many petechiae on the hard palate, chest,

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arms and legs and one spot upon the conjunctiva and one upon the lower lip. The heart was not enlarged, but showed a soft blowing systolic murmur over the whole precordium, apparently of hemic origin. The lungs were clear, the abdomen was soft, and no organs could be palpated other than the uterus, which was large and soft. The cervix admitted a finger tip.

Bleeding and coagulation times and clot retraction were normal. Platelets 300,000. R.B.C. 2,500,000. Hgbn 30 per cent. W.B.C. 3,000. Pol. 50 per cent. Sm. Lym. 24 per cent. L. Lym. 21 per cent. Myeloc. 5 per cent. Normoblasts 2 per 100 white blood cells.

The clinical picture was that of purpura hemorrhagica except for the normal platelet count, bleeding time, clot retraction and marked leucopenia. The following day, a blood transfusion of 550 cc. was successfully given, and a consultant expressed the opinion that the differential diagnosis rested between atypical purpura hemorrhagica and aplastic anemia. Currettage was advised and performed with packing of the uterus with thromboplastin-soaked tampons

The next day, another transfusion of 550 cc. apparently checked the uterine bleeding. Further transfusions of 500 to 700 cc. were given April 20, 22 and 24. The R.B.C. was 2,400,000 on April 21 with Hgbn 40 per cent. W.B.C. 2,000. Platelets 124,000. Polys 25 per cent. Lym. 75 per cent. On May 6, as a result of three more transfusions, the blood reached its peak of R.B.C. 4,300,000. Hgbn 80 per cent W.B.C. 3,000. Platelets 200,000. Polys 23 per cent. Lym. 77 per cent.

THE patient held her own through the month of May, so was allowed to eave the hospital. Her May and June nenses were normal and she had only small sporadic outbreaks of petechiae. In the last week of June she began to bleed from the gums, which persisted in spite of attempts to control it locally. Her period in the first week in July was normal, but her blood count had gone down, so she received transfusions on June 28 and July 6. July 10, her blood picture showed R.B.C. 2,500,000. Hgbn 42 per cent. W.B.C. 2,000. Polys 18 per cent. Platelets 50,000. On July 12 she had a severe headache, lapsed into a coma and died of cerebral hemorrhage within eighteen hours.

The transfusion treatment had been complemented by daily injections of calcium in the muscle, a vial of Lilly's liver extract t.i.d., iron and arsenic by mouth and liver with her meals.

The only suggestive focus of infection to account for the aplasia of the bone marrow was in three abscessed teeth from which *Streptococcus viridans* was obtained in pure culture. Because of the constant danger of uncontrollable hemorrhage, these carious teeth were never pulled. However, the root canals were opened and drained as widely as possible through the pulp chamber.

Case No. 2

MR. H. H., age 60, complained of weakness, dyspnea on exertion, headaches and dizziness of increasing severity for six weeks, compelling him to stop work as a garage foreman. There was no history of exposure to benzol, arsenic or other toxic agent. Although well nourished, he was very pale and obviously anemic. His blood picture in Sept., 1935, revealed R.B.C. 2,100,000. Hgbn 38 per cent. W.B.C. 4,000. Polys 26 per cent. Sm. Lym. 51 per cent. L. Lym. 20 per cent. Eos. 3 per cent. Platelets 92,000. Coagulation and bleeding time and clot retraction were normal Red blood cells were large and well stained and there were 3 megaloblasts per 100 white blood cells. Urinalysis was negative. The liver and spleen were not enlarged, and no petechial or other hemorrhagic manifestations were ever noted. Although the color index was slightly below 1, the tentative diagnosis was pernicious anemia. Liver extract was injected three times a week, but one month later in spite of treatment his blood count fell to R.B.C. 800,000. Hgbn 18 per cent. W.B.C. 2,100. Polys 42 per cent. Sm. Lym. 32 per cent. L. Lym. 22 per cent. Eos 4 per cent. Platelets 20,000. Reticulocytes 0.1 per cent. Normablants 2 per 100 white blood cells. Icteric Index was 5. There was no lymphadenopathy or enlargement of the liver or spleen. The diagnosis was now felt to be idiopathic aplastic anemia or aleukemic leukemia, with fatal prog-

nosis. Blood culture was sterile. Radiograms of lungs and heart were normal. Gastric analysis showed normal free hydrochloric acid and total acidity. No evidence of malignancy was ever found. Rib biopsy showed no evidence in the bone marrow of leukemia and there was definite evidence of hematopoiesis.

During the following month he received five transfusions of 550 cc. each on Oct. 11, 15, 18, 24 and Nov 9. His blood count then showed R.B.C. 1,100,000. Hgbn 22 per cent. W.B.C. 800. Polys 14 per cent. Sm. Lym. 51 per cent. L. Lym. 34 per cent. Eos 1 per cent and no reticulocytes. Several lymphoblasts were found in every blood smear and the opinion of the staff still divided the diagnosis between aplastic anemia and aleukemic leukemia with 100 per cent fatal outlook. Despite the fact that further blood transfusions appeared futile, the wife's insistence caused them to be continued. During the week of Nov. 18 he had several nosebleeds, which was his first purpuric manifestation. Blood count showed R.B.C. 1,100,000. Hgbn 24 per cent. WB.C. 1,600. Polys 42 per cent. Lymphoblasts 3 per 100 white blood cells. Reticulocytes 0.5 per cent. Three more transfusions of 500 cc. each were given during the next three weeks, bringing his blood count only up to R.B.C. 1,500,000. Hgbn 20 per cent. W.B.C. 3,200.

THEN his condition, curiously enough, improved, so that by Jan. 1, four months after the onset of his illness, his blood count showed R.B.C. 1,600,000. Hgbn 32 per cent. W.B.C. 5,900. After one more transfusion, his improvement was enough to allow him to go home, where he continued to improve. Jan. 11 his blood picture was R.B.C. 3,000,000. Hgbn 58 per cent. W.B.C. 5,500. Polys 45 per cent. Platelets 150,000. There was marked polychromatophilia and basophilic stippling. Another transfusion was given and on Feb. 5, five months after onset, his hemoglobin had climbed to 84 per cent and he felt fine. Inasmuch as the cause of his anemia and bone marrow hypoplasia was still undetermined, he was warned that he might undergo a relapse at any time. However, he has continued to remain well and feels that he is cured now that it is almost two years since the onset of his illness.

The lesson to be drawn from this case seems to be that frequent blood transfusions should be continued, even when they seem futile and the prognosis seems hopeless, thereby perhaps saving the life of one suffering from a severe blood dyscrasia such as the above case showed.

KIDNEY DISEASE

Malford W. Thewlis, M.D.

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Cancer

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HOW FAR ARE WE JUSTIFIED IN EXPECTING THE DEVELOPMENT OF A SINGLE COMPREHENSIVE CURE FOR CANCER?

JOHN J. MORTON, M.D., F.A.C.S.
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THE physician is frequently asked by the laity whether any progress is being made towards the cure of cancer. It is quite apparent, from the inquiries, that the majority of people regard cancer as a single disease much the same as tuberculosis is. This attitude is encouraged by the constant search in the laboratories of the world for a cause, *the* cause for malignant tumors. An opinion that cancer in the widest definition of the term may represent manifestations of the reaction to a universal agent is not entirely confined to the laity. Recently, Rous (1) has speculated on the possibility of a virus origin for malignant growths. Carter Wood and his school of investigators (2) in a study of chemically induced malignant tumors have noted that the histogenesis was determined merely by the chance exposure of the tissues involved. This finding would not make it improbable for a single agent to be responsible for many different pathological types of malignancy. When such life-long students of the cancer problem lean towards a possible universal cause for malignant conditions, it becomes necessary to consider carefully the possibilities for a single cure as well.

From the mass of evidence that we have to date regarding the etiology of cancer it is generally agreed that the fundamental change is inherent in the cells involved. This change from an orderly pattern to one without regulation may be conditioned by the hereditary constitution; by the internal cell metabolism; by alterations in the chemical balance; and by readjustments of the electrical charges. Any one of many external influences may initiate the mutation in the cells. The agents may be physical such as repeated trauma, thermic changes, etc.; chemical, such as the coal tars, glandular internal secretions, katabolic products in stasis and stagnation, irritating discharges, etc.; biological, such as the parasitic cestodes, nematodes, bacteria, viruses, etc.; actinic, such as ultraviolet light, roentgen rays, radium, etc. The list of substances which may incite the cells to the change into the cancerous state is receiving almost daily additions. To select one group of these substances whether chemical or ultramicroscopic in nature and to hold it up as the single cause of cancer requires special pleading and ignoring of the known facts. Thus, it is necessary to assume that all cells harbor latent viruses which can be activated to promote cancer when subjected to the proper environment. The

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burden of the proof for a virus cause of neoplastic growth certainly rests at present on those who claim it. It has yet to be shown that an ultramicroscopic living agent is concerned with any but a very few of the many known types of mammalian cancer. The virus has yet to be recovered from the mammalian tumors which it has initiated. This may be due to our faulty methods in demonstrating viruses but at least it should make us cautious about drawing too extravagant conclusions. The fact that most viruses require living cells to demonstrate them makes the living cell deserve the more consideration. This brings us back to our starting point—namely, that the fundamental change is in the cells themselves. It is certainly most difficult to explain metastasis on either a virus or chemical basis. If we accept the recent thesis of Stanley (3) that viruses are protein molecules they cease to exist as living agents and can be regarded simply as chemical constituents of the cell. On this theory the cell is restored to its central position of importance.

FROM the standpoint of a comprehensive cure for cancer it is thus necessary to look upon it from many angles. Our first objective should be to free the cell from as many adverse environmental factors as is possible. When this has been done cancer may be prevented because the cell freed of the inciting factors may not undergo the internal transformation which becomes cancer. There are some notable examples of cancer prevention which lend weight to this view. It is no longer obligatory that the workers in radiation therapy become victims of cancer. The radium dial painters have been protected from sarcoma. The coal tar, anthracene cake, shale oil, and aniline dye handlers have been made safe from the materials they contact. The cobalt miners have been given gas mask respirators to absorb the radium emanations in the air of the mines and to safeguard them from pulmonary cancer. The mule spinners have had non-carcinogenic oils substituted for those which had been harmful in the past. The betel nut cancers of the East and the Kangri basket cancers of the Punjab could be eradicated by abolishing the practises which ultimately set them off. Cancers of the buccal cavity and lip have been greatly diminished by attention to mouth hygiene. They could be further reduced by restriction of tobacco and elimination of syphilis. Undoubtedly much has been done in prevention by the removal of benign lesions of the skin, mouth, breast, uterus, cervix and intestinal canal. No one can estimate how many cancers have been prevented by the removal of stones from the gall bladder and genito-urinary tract. Perhaps even cancers of the lung could be lessened by measures taken to absorb the noxious exhaust fumes from automobiles instead of turning them loose into the atmosphere of our cities. From the side of prevention, then, the best line of attack is on those agencies which may be considered to be inciting factors but not the fundamental process itself.

The fundamental change in the cell could be modified if we could manipulate the hereditary pattern in man—as easily as we can in our domestic animals. It would first be necessary to get more knowledge in regard to the inheritance of susceptibility and resistance to cancer in man. When sufficient data had been assembled so that geneticists could agree on the mechanism, it might be possible to breed out the susceptibility to cancer as Maude Slye claims to have done for mice (4). This would be possible, as she aptly states, only if man would substitute reason for romance. This line of cancer control does not seem to hold much promise at present. It is doubtful whether it will ever have much influence. It is yet to be proved that the heredity factors can be regulated as easily as Maude Slye believes.

WHEN Warburg (5) demonstrated that cancer cells had a mechanism which could split up sugars in the absence of oxygen, a promising new field for therapy seemed to be opened. When he further showed marked quantitative differences in the use of sugar over that of the normal cells, there was a feeling that at last an entering wedge in therapy had been discovered. It appeared possible to hitch a poison to a sugar group which the cancerous tissues might break up in their metabolism. The decided quantitative difference in the sugar splitting fermentation would then make it feasible to supply a lethal amount to the cancerous while not

damaging the normal tissues. The obvious line of attack was to see if cancer cells would metabolize any of the glucosides. These are the powerful poisons by which the plant world defends itself against the invasion of putrefactive organisms. It was found that cancer cells were unable to split up these glucosides in any way. The hexose phosphates offered the next line to be investigated. These groups were available in normal tissue metabolism. The cancer cells utilized them well. There remained only the joining of the poison to the hexose phosphate groups. At this point it was found that the quantitative differences previously discovered were not limited entirely to cancerous tissue. The retina for instance had almost identical relationships. Additional information regarding other tissues revealed that quite a number of supposedly normal tissues fell into the same category. It was evident that any lethal doses worked out against cancer would be equally damaging to certain of the normal cells. This avenue of attack thus was closed until further investigations could be carried forward. The possibility of using an increased oxygen supply was likewise advocated. This was based on the belief that the growth activity of the cancer cells would thus be decreased. The outcome of many trials of this therapy has been unsuccessful.

ALTERATIONS in the chemical balance would seem to offer a field which has far reaching implications. The cells must be under some influences which control their actions. In their ordinary relationships to wear and tear of the body tissues there must be mechanisms for starting them to repair the damaged structures; and there must be other mechanisms to stop them when the repair has been completed. The work of Reimann and Hammett (6) and associates is full of interest in this respect. Whether neoplastic growths respond to these same mechanisms is still open to investigation. Whether neoplastic response differs in kind or quantitatively also remains to be worked out on a large scale. Some evidence is at hand to show that substances which cause stimulation and those which cause inhibition of certain spontaneous cancers in mice also react similarly on their body growth. The investigations of Voegtlin *et al.* (7), which show that diets deficient in cystine cause slowing or cessation of growth in mouse tumors and that the administration of either cystine or glutathione causes stimulation, are a confirmation of this point, which requires further intensive study.

Murphy and his group (8, 9, 10) have been extracting both inhibitory and accelerating substances from neoplastic and normal tissues. This work is only at its beginning. The most potent sources for both groups of substances must be determined. The essential chemical components in the solutions must be isolated and purified. Their action must be studied against normal and against cancerous tissues. The future of their application must remain still as a stimulus to those whose task it is to unravel the mysteries of growth and even of life itself.

STANLEY'S recent demonstration that the tobacco mosaic virus can be crystallized; that it can be analyzed and measured; that it is protein in character; that it has power to promote growth of tissues; that it can be separated from the other cytoplasmic elements by the high speed ultracentrifuge—these cannot be dismissed lightly. It has been demonstrated further that the Shope rabbit fibroma virus has similar properties. This apparently benign growth can be transformed into a lesion which acts the same as a malignant tumor through the interaction of tissue extracts as Berry and his co-workers (11) have shown. It does not require too great a stretch of the imagination to believe that a reversal of this process can be discovered. If all viruses and neoplastic growths should be shown to be responses to these peculiar protein crystallines, it might be that attenuated forms by passage in another species could be used for protection against the more damaging ones. This offers us the same hope for protection as that given in smallpox where the human vaccine virus has been modified by its bovine sojurn.

Furthermore, since every known soluble complete protein may act as an antigen, there should be a chance to develop specific antibodies. This may require some refinements in our bacterio-

ligical technique as no one has been able to show such a relationship in cancer up to the present.

Investigations such as those of Spemann, who showed that the injection of extracts of certain tissues can determine the future structure of the undifferentiated cells in their neighborhood; or those of Willier (12), who determined the future sex organ pattern by supplying oestragenic substances—lead us to believe that we may yet be able to manipulate the factors controlling growth and differentiation.

The alignment of the electrical charges in cells is beginning to be demonstrable by more accurate methods than we have had previously. Burr *et al.* (13) have made it possible to record measurements of cellular activity in terms of electrical response. This should open a new avenue of approach to diagnosis. It might even give an index to the effect of treatment. The favorable action of radiation treatment is presumed by some to be dependent on the realignment of the electrically charged particles in the cells. Harrison believes that the arrangement of the electrical units may be responsible for the determination of the polarity of a developing embryo. This whole field should have critical analysis by biologists and physicists concerned with the problem of growth.

And so, at the present time, although research on the fundamental problem of growth in cells is going on in laboratories all over the world, the answer to the riddle is not yet at hand. The problem is one of exceeding complexity. Many lines of endeavor are being converged on the origin of life itself. Progress is being made. It is not too much to hope that someday we may be able to get complete control of growth. When this day arrives we will have the cure for cancer.

Until then, we must regard cancer as a group of very different forms of growth, having many different inciting factors; and behaving in decidedly differing manners. At the present we must look upon cancer as a group of many diseases. Each type has its own peculiarities of behavior. Each type responds in its characteristic fashion to such variations in therapy as we have at our command. Until we possess the means to control all growth, we must endeavor to select with great care the therapeutic agent most appropriate for each different form of cancer.

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Contemporary Progress

+ Neurology +

Encephalography With Anesthetic Gases

R. B. AIRD *(Archives of Surgery, 34:853, May, 1937)* has previously reported animal experiments on anesthetic gases for encephalography, in which it was found that nitrous oxide and ethylene were suitable for encephalographic procedures, had slight but definite narcotic effects, caused only a minimal degree of irritation, and caused no pathological changes in the brain, spinal cord or meninges. In this article he reports the use of these gases for clinical encephalography; both give good roentgenographic pictures, but ethylene disappears more slowly and is therefore more practical. It has been found that ethylene has a definite, though slight, sedative effect that reduces the severity of the immediate reaction to encephalography, thus "making the procedure easier and the results more satisfactory." The post-encephalographic reaction is definitely shortened and also less severe as compared with air or oxygen injections; only little, if any, supportive treatment is required. Pure ethylene, in a closed system as used for encephalography, is not explosive; and the apparatus employed is simple and inexpensive.

Reduction of Postencephalographic Symptoms By Inhalation of 95 Per Cent Oxygen

R. S. SCHWAB, and his associates at the Massachusetts General Hospital, Boston, Mass., *(Archives of Neurology and Psychiatry, 37:1271, June, 1937)* note that the severity of the symptoms that often follow encephalography and its occasional serious effects have interfered with the widespread use of this valuable diagnostic procedure. By combining a modified continuous flow apparatus with the technique described by Davidoff and Dyke in 1932, the incidence of reactions to encephalography was appreciably reduced in 30 consecutive cases at the Hospital. The technique employed is to take a trial roentgenogram when 50 c.c. of air has been introduced; if the filling is adequate no more air is introduced and the usual eight X-ray pictures are made. If the filling is not adequate more air is introduced. This technique has been further modified recently by having the patient inhale 95 per cent. oxygen for three hours immediately after the encephalograms have been made. The apparatus used for this

procedure is described. This results in the removal of all the subarachnoid air and much of the ventricular air in this period. Results in 37 cases show the incidence of headache and other reactions definitely reduced by this procedure. In 10 cases oxygen gas, instead of air, was injected for the encephalogram, and oxygen inhaled for three hours afterward; this group of patients showed a slightly better recovery than the group in which air and oxygen inhalation were used. No pulmonary or cardiac complications from the oxygen inhalations were observed. There were no significant changes in the blood picture, respiration or color of any patient when in the oxygen machine. The intramuscular injection of 1 c.c. of a solution of posterior pituitary extract did not affect the disappearance of the air from the subarachnoid spaces or the ventricles, but it did accelerate the return of cerebrospinal fluid and reduce the headache. It was, therefore, employed in most cases as an adjunct to the oxygen inhalation.

COMMENT

Encephalographic air study is now an accepted and valued procedure in neurologic diagnosis, and in properly selected cases is virtually without danger to life. The information revealed through these studies often gives certainty to a diagnosis. In many instances of intracranial disease a case is not "worked up" properly unless these air studies are done. Even when carefully done the post-procedure course of the patient is in most cases very distressing for many hours. Except in cases of brain atrophy, air over the cortex can not be tolerated without pain. Consequently any effort leading to amelioration of symptoms is very welcome. For this purpose the use of oxygen inhalation is quite ingenious. It deserves a widespread clinical trial.

H. R. M.

Benzedrine Sulphate

ERICH GUTTMANN and WILLIAM SARGENT *(British Medical Journal, 1:1013, May 15, 1937)* report the use of benzedrine in over 250 in-patients, out-patients and normal subjects at the Psychiatric Research Unit of Maudsley Hospital, London; in over 100 cases systematic experiments with the drug have been carried out. It was found that the small doses of the drug usually employed therapeutically (10 to 30 mg.) had little effect on the blood pressure; fluctuations of 10 to 30 mm. were sometimes observed, a degree of alteration within the limits of experimental error and physiological variation. The degree to which the blood pressure changed in response to a standard dose of benzedrine appeared to be "almost constant" for each individual. Some "vasolabile" individuals complained of symptoms such as dizziness, palpitation, tremor, or anorexia; but such symptoms are to be attributed to other autonomic disturbances rather than to the actual rise in blood pressure. However, as a rule, benzedrine was not given to patients with definite cardiovascular disease. Benzedrine produces a "general psychologic stimulation;" it increases talkativeness and mental activity; it appears to speed up thinking processes without impairing attention, concentration or judgment. It relieves fatigue from excessive work and worry. Patients with "retardation, indecision, mild depression and hesitation" are benefited by it. It is especially indicated in cases of "mild depression with retardation." Some anxiety states are improved by it, and certain patients with schizophrenia in whom lack of initiative is a symptom are also benefited. Benzedrine was first used in the treatment of narcolepsy, and the authors have confirmed its value in this condition. The best results have been obtained with doses of 10 to 30 mg. of benzedrine; the smaller dose should be used first, and increased if necessary to bring about the desired "psychological stimulation." The drug should be given before noon in order to avoid sleeplessness. Continuous daily administration does not always maintain the stimulating effects of the drug, and certain of the more disagreeable effects may be noted with continuous administration. Hence the danger of addiction does not appear to be great; however, the drug should be used with caution until the indications for its use have been more exactly formulated.

Benzedrine Sulphate In Postencephalitic Parkinson's Disease

P. SOLOMON, R. S. MITCHELL and M. PRINZMETAL *(Journal of the American Medical Association, 108:1765, May 22, 1937)* report the use of benzedrine sulphate in the treatment of postencephalitic Parkinson's disease (28

cases), arteriosclerotic Parkinson's disease (10 cases), and psychoneurosis with asthenia a prominent symptom (22 cases). It was found to be of no value in arteriosclerotic Parkinson's disease and benefited only 2 out of the 22 cases of psychoneurosis. But in postencephalitic Parkinsonism it proved a useful drug for symptomatic treatment. In cases in which drowsiness and lack of energy were the predominating symptoms, benzedrine alone was effective in relieving such symptoms, but in most cases the best results were obtained by combining benzedrine with scopolamine or stramonium. Although objective tests did not demonstrate definite improvement in the muscular rigidity or in strength from the use of benzedrine, subjectively these symptoms were improved in more than 70 per cent. of cases. Benzedrine also had an almost specific action in abolishing or reducing the number and severity of oculogyric crises. The authors note that benzedrine sulphate must be used with caution until more is known about its action.

COMMENT

This new drug has found a definite beneficial pharmacologic use. Its value, as stressed by the writers of the first of these two papers, lies in the fact that its good effects can be produced without serious variations in the B.P. in the average case. We agree that it should not be administered in cases of known cardiovascular disease. It should be used very cautiously in patients no matter what the age with a tendency to a too high B.P.

As yet we have had little actual benefit in cases of severe depression. Milder cases may show a slight "lift". In the encephalitic cases the loss of the drowsy state is its chief value. There is no actual improvement in the tremor, muscular rigidity or loss of associated movements.

H. R. M.

Vascular Architecture of the Lesions Of Multiple Sclerosis

T. J. PUTNAM and A. ADLER *(Archives of Neurology and Psychiatry, 38:1, July 1937)* present a study of the vascular pattern of typical plaques from patients with multiple sclerosis. Glass plate reconstructions from three such plaques and sections from two other plaques prepared by the injection of India ink and staining by the benzidine method, are described with illustrations (including photomicrographs of the sections). From their study of these reconstructions, and specimens, the authors conclude that "the vascular architecture of the lesions of multiple sclerosis is characteristic." Small plaques usually surround engorged veins that are "gnarled and tortuous." If a thrombus occurs in a vein, an area of fresh degeneration develops in close relation to it. As a rule there is an increase in the number of capillaries in the plaques of multiple sclerosis, but there may be a decrease.

COMMENT

The author has been pounding away steadily for some time on this theory. He is slowly building up an impressive mass of evidence in its favor. We, who have been following his papers, feel there is considerable basis for his interpretative studies of pathologic material as well as for his other experimental work.

H. R. M.

Effect of Tribromethanol (Avertin) On the Brain Stem

R. R. WHITE, R. T. BELLOWS and WILLIAM P. VAN WAGENEN *(Journal of Nervous and Mental Diseases, 86:1, July 1937)* note that it "has been reasonably well established" experimentally and clinically, that the site of the pharmacological action of tribromethanol (avertin)is in part at least on the hypothalamus. The authors report experiments on decerebrate dogs (using the method of Pollock and Davis to obtain decerebrate rigidity) in which it was found that the intravenous administration of tribromethanol brought about a release from the postures of extensor rigidity in some instances; it also abolished some of the fighting reflexes characteristic of decerebrate rigidity. These findings indicate, in the authors' opinion, that tribromenthanol (avertin) has an action on the brain stem in addition to its known action on the hypothalamic region.

Vitamin Treatment of Spinal Cord Involvement in Pernicious Anemia

R. PFAFFENBERG and H. MIELKE *(Klinische Wochenschrift, 16:919, June 26, 1937)* suggest that the absorption of vitamin B_1 may be interfered with by the

abnormal conditions in the gastro-intestinal tract in pernicious anemia; this remains to be demonstrated experimentally. While it is true that it has not yet been definitely proven that the neurological symptoms of pernicious anemia are due to a vitamin B_1 deficiency, the authors have found that the spinal cord symptoms are definitely relieved by giving B_1 in large quantities. Various yeast preparations may be given by mouth, or certain special preparations of vitamin B_1 (of which there are several available) by injection. A definite excess of vitamin B_1 over the normal requirements must be supplied to have the therapeutic effect. This therapy is to be employed as a supplement to liver therapy for the underlying blood disease, and like liver therapy, it must be continued after the patient is discharged from the hospital, either by administration by mouth or by injections at regular intervals.

COMMENT

We have had no experience with the deliberate use of vitamin B_1 in P.A. cord cases. In the vast majority of instances the effect of liver therapy alone is so startlingly successful that there has been no necessity to consider additional medication. It must be admitted, however, that there is little improvement in the objective clinical neurologic findings, despite the great general improvement in the patient's condition. The subjective improvement is all out of proportion to the findings disclosed by careful clinical observation. It must be admitted that a patient can still get about very well despite the presence of a Babinski and the loss of vibratory (256) appreciation.

H. R. M.

Physical Therapy

Clinical Applications of Ultra-Violet Irradiation

A. P. CAWADIAS *(British Journal of Physical Medicine, 12:7, May, 1937)*, whose article on the technique of ultra-violet irradiation was abstracted in this section previously (see *Medical Times*, June, 1937, p. 313), discusses the clinical application of ultra-violet radiation in some general conditions. In all these conditions the sub-erythema doses, as described by the author, are employed, as the treatment is general, not local. The author has found ultra-violet irradiation of definite value in the treatment of various constitutional inadequacies of children and adolescents due to minor dysfunctions of the endocrines. One of the most important of these constitutional inadequacies in which ultra-violet irradiation is of value is the so-called lymphatic constitution characterized by enlargement of lymphatic glands in all parts of the body, and especially in the pharynx (tonsils and adenoids). Unless the tonsils are "septic," one or two courses of ultra-violet irradiation should be given before resorting to tonsillectomy. In convalescence from acute or lingering diseases, the author has found ultra-violet irradiation of definite value as a supplement to "good hygiene and adequate diet." By this means the use of drugs as tonics may be avoided. Endocrine deficiency occurs very frequently after acute diseases, and in such cases the ultra-violet irradiation serves as "an excellent method in physical endocrinopathy." The author also discusses the use of the ultra-violet rays in rickets, spasmophilia and tetany. In rickets ultra-violet irradiation is recognized as an important factor in the treatment; the other factors of which are: careful hygiene and correction of digestive disturbances, cod-liver oil or other vitamin D preparations; calcium. The mercury vapor lamp has proved superior to the carbon arc lamp in the treatment of rickets, as a rule, although in giving several series of treatments, the carbon arc lamp or a tungsten arc lamp may be used in one of the series as a variation. The author notes that it is important to avoid excessive dosage, even in sub-erythema doses; he gives twelve to fourteen treatments in the first series of treatments; after one month's interval, a second series; after an interval of six weeks, a third series. In the treatment of spasmophilia the same method is used but with less intensity; here as in rickets the ultra-violet treatments are combined with calcium and vitamin D. The ultra-violet treatment is most important as a factor in treatment in the tetany associated with rickets. In tetany due to parathyroid deficiency, parathy-

roid hormone and calcium are chiefly indicated; ultra-violet irradiation, as well as vitamin D, "plays a secondary rôle," but is important in "fixing the results."

COMMENT

The comments made concerning a review in a previous number of the MEDICAL TIMES are applicable to this article. The writer does well to emphasize the fact that sub-erythema doses are more effective than burning up the patient's skin. The constitutional results of ultraviolet therapy are still empirical but time will prove the potency of treating the skin to achieve these results.

N. E. T.

Histamine Iontophoresis

D. H. KLING and D. SASHIN *(Archives of Physical Therapy, 18:333, June, 1937)* report the use of histamine iontophoresis in the treatment of rheumatic conditions and diseases of the peripheral circulation. The histamine solution is introduced into the tissues by the positive electrode of a galvanic apparatus. A padded electrode or strips of block tin or lead foil covered with gauze are used; the histamine solution is applied over the affected parts on filter paper, over which the positive electrode, well moistened, is secured by bandages. A 1 : 2000 solution of histamine is used for the treatment of smaller areas (electrodes 4 x 6 in.); a 1 : 3000 solution for the treatment of large areas as in sciatica and joint diseases. In treatment of joints the whole circumference should be covered; in the treatment of nerves, their course should be followed; in the treatment of myositis the antagonist muscles as well as the affected muscles should be treated. The intensity of the current employed does not exceed ½ milliampere per square inch of smaller electrodes or ¼ milliampere per square inch of large electrodes. A number of joints or muscles may be treated simultaneously by using branching cords attached to the positive pole. In certain conditions other drugs may be combined with histamine; in osteoarthritis, for example, a 1 per cent. solution of sodium idodide was applied from the negative pole with histamine from the positive pole. In a small series of cases of disease of the peripheral circulation—vasospastic conditions, acroparesthesia, Raynaud's disease, etc.—relief was obtained by this method in 60 per cent. of the cases. In traumatic affections of the soft tissues (myositis, subacromial bursitis, tenosynovitis and brachial neuralgia) histamine iontophoresis results in cure or improvement in 80 to 90 per cent; in the authors' opinion, it is the method of choice in these conditions. In arthritis, the effects of the treatment vary with the type and stage of the disease. It is most effective in post-traumatic arthritis. In rheumatoid arthritis and gout, relief of pain, decrease in peri-articular swelling, and an increase of motion were obtained, especially in the smaller joints, in a large percentage of cases. In osteoarthritis improvement is noted in a smaller percentage of cases. The chief value of histamine iontophoresis in arthritis is to increase the peripheral circulation and relieve the pathologic involvement of the soft tissues. This makes it a valuable addition to the therapy of arthritis, especially as it can be combined with other therapeutic measures.

COMMENT

In spite of the authors' enthusiatic conclusions concerning the use of histamine, it has not been generally found as useful in acute conditions as in chronic. Those who believe that acute conditions can be readily relieved invoke the action of counter-irritation through diathermy, short wave, whirlpool baths and static electricity, which have more definitely specific effects on the increased peripheral circulation.

N. E. T.

Radiotherapy of the Suprarenal Region in Obliterating Arteritis

DESPLATES and LANGERON *(Journal de radiologie et d'électrologie, 21:152, April, 1937)* report the results in eight years' experience with the treatment of different types of obliterating arteritis by deep Roentgen-ray irradiation of the suprarenal region. The paravertebral region on both sides is irradiated between the eleventh dorsal and the third lumbar vertebrae, using penetrating rays (130,000 volts), and a filter of 5 to 7 mm. aluminum. Treatments are given alternately to each side every second day until a total dosage of 900 international *r* units has been given to each side. Not more than 250 r units is given at each treatment, and

the authors often diminish the individual doses to 150 r units, which prolongs the treatment, and thus keeps the patient under the influence of the X-rays for a longer period. In more than 200 cases treated by this method the authors have had 62.5 per cent. good results; 22.5 per cent. "partial" results; 5 per cent. complete failures. The best results have been obtained in diabetic arteritis; in thrombo-angiitis obliterans an "important percentage" of good results have been obtained; it is essential that treatment be begun early. In senile arteritis a smaller percentage of complete relief has been obtained, but definite improvement has resulted in many cases, and amputation for gangrene of the fingers and toes has been avoided. In cases of arteritis of long standing it is not to be expected that permanent cure will be obtained; patients must be warned against exposure to cold and wet, against standing too long and long walks; a new series of treatments should be given if symptoms tend to recur. The authors have under observation cases of intermittent claudication, treated in the early stages, which have been entirely free from symptoms for seven to eight years; in some of these the return of oscillations in the affected arteries has been observed, but this is not the rule. The authors note that with their technique of treatment, not only the suprarenals are irridiated, but the paravertebral sympathetic chain and the regional sympathetics; it is therefore a "mixed" form of radiotherapy acting both on the suprarenal glands and on the sympathetic system.

COMMENT

V-ray therapy as above described has been tried in the United States for some years. The results, however, have not been as successful as those reported by these authors. X-ray in affecting the sympathetic ganglia brings about a reaction similar to excision. Excision of ganglia in the hands of American surgeons has not proven useful. Much of X-ray therapy lies in observation in the future of the exact check-ups of the cases.

N. E. T.

Physical Therapy of Peripheral Vascular Disease

B. C. SMITH *(Archieves of Physical Therapy, 18:391, July 1937)* states that at the peripheral vascular clinic of the Presbyterian Hospital, New York City, the pressure suction boot has been used for the past three years and has been found of more value in arteriosclerotic cases than in the thrombo-angiitis obliterans. In cases with normal skin, the application of the pressure suction boot is preceded by massage of the extremity for fifteen minutes and followed by a whirlpool bath at 100° to 103° F. for fifteen to twenty minutes. The patient is then returned to bed and the extremities kept warm, sometimes by the use of a thermostatically controlled light under a cradle covered with blankets which maintains the temperature between 90° and 95° F. The author found some years ago that the surface temperature of the extremities returned to the pre-treatment level sooner after diathermy than after a whirlpool bath at 103° F. The whirlpool baths are, therefore, used in the clinic for the treatment of peripheral vascular disease rather than diathermy. These baths with massage have given better symptomatic relief in thrombo-angiitis obliterans than pressure suction in the author's experience.

COMMENT

This article is of great importance because the study of these cases is so exact and the differentiation of effects of various treatments is recognized without any bias. Too much popularity was enjoyed by the positive and negative pressure machines and a study is now showing the limitations of this form of treatment. The whirlpool bath has been recognized for its beneficial effects on circulation ever since the war, but being too much of a physical therapy treatment, it has not been given due respect by the orthopedic surgeons. Benson of Chicago has proven in a physiology laboratory what the author mentions in this paper, namely, that the whirlpool bath causes better heating than diathermy in extremities.

N. E. T.

Continuous Registration of Rectal Temperatures During Treatments In the Hypotherm

W. STENSTROM and his associates in the Section of Biophysics of the University of Minnesota Medical School *(Journal of Laboratory and Clinical Medicine, 22:848, May 1937)* note that in the induction of artificial fever, it is of the utmost importance to watch the

temperature of the patient carefully. The use of a rectal thermometer which has to be frequently inserted and removed is inconvenient, and the procedure may also involve the considerable escape of moist air (if the Kettering hypertherm is used), and fluctuations in temperature that would not otherwise occur. The authors describe an electrical device for continuous registration of temperature, by which the temperature can be read at any moment without disturbing the patient. A thermocouple and a specially constructed rectal applicator are employed. This apparatus was devised especially for use with the Kettering hypertherm, but it can also be employed with other methods for inducing hyperpyrexia. The authors note that physicians in charge of hyperpyrexia treatments who have used this device have found it of great assistance.

COMMENT

Any apparatus that will tell the attending physician the exact temperature of the patient receiving fever treatment is an important safeguard. Most of those that have been built up to date, however, have a "lag" in recording the exact temperature. In high fever, this "lag" makes the apparatus useless. Patients do not enjoy ten minute removal of rectal thermometers during a ten or fourteen hour treatment, so an in-dwelling rectal electrode connected with a temperature recording machine is a boon to them.

N. E. T.

+ Public Health, + Industrial Medicine and Social Hygiene

Zinc Sulphate Prophylaxis In Poliomyelitis

E. W. SCHULTZ and L. B. GEBHARDT, *(Journal of the American Medical Association, 108:2182, June 26, 1937)* review their work and the work of others in the endeavor to find a suitable chemical for application to the olfactory mucosa "which might in some way modify the permeability" to the poliomyelitis virus. Among the many substances tested, they found that in monkeys zinc sulphate gave a "surprisingly high" degree of protection against subsequent intranasal instillation of the poliomyelitis virus. Because of this high protective value, and the simple composition and relatively low toxicity of this drug, they believe that it deserves a trial in man. In using zinc sulphate in man, they advise a solution of 1 per cent. zinc sulphate, 0.5 per cent. sodium chloride, and 0.5 or 1 per cent. local anesthetic (pontocaine), the latter to allay any irritation. This solution should be applied with an atomizer with a suitable tip according to the technique described by Dr. Max Peet *(J. A. M. A., 108:2184, June 26, 1937)*. Applications should be made at least every two weeks whenever the risk of infection is great; a still more desirable procedure is to apply the solution on two or three successive days at first and then once every two weeks. This prophylaxis should be given under the auspices of national, state or local health authorities, aided by physicians familiar with the technique; a record should be kept in the local health office of all persons treated; any undesirable effects of the treatment should be carefully noted; in "measuring" the results later, only those persons who have received "adequate treatments under competent supervision" should be considered as having received "valid" prophylactic treatment.

Myobacterium Tuberculosis In the Air and Dust

G. M. EISENBERG *(American Journal of Hygiene, 26:138, July, 1937)* reports a study of the air and dust from rooms in 4 institutions for tuberculous patients for the demonstration of the presence of tubercle bacilli. The method of treating the air and dust samples, the preparation of smears, and the culture media employed are described. An unusual number of positive results were obtained by both the direct smear and cultural methods; 88+ per cent. of smears were positive before digestion and 85+ per cent. after digestion. Of 230 cultures made from 55 samples, 49 per cent. showed acid-alcohol fast organisms. That these organisms were not so attenuated that they could not be subcultured is evident from the fact that 40 per cent. of successful subcultures were obtained. The author notes that culture media containing coal-tar dyes were more efficient than media without such dyes. He con-

cludes that "living virulent tubercle bacilli are present in the air and dust of tuberculous environments:" environmental cleanliness reduces the number of positive findings, but does not keep the "tuberculous environment" free from bacilli. Such environments, therefore, "may constitute a potential menace to the health and well-being of healthy individuals who are in constant contact with them."

Ill Effects of Heat Upon Workmen

J. H. TALBOTT and his associates *(Journal of Industrial Hygiene, 19:258, June, 1937)* report a study of the effect of heat upon workers in the steel mils of Youngstown, Ohio. During the period of study 59 workmen were admitted to the hospital suffering from the effects of exposure to high degrees of heat. It was found that most of the cases studied could be divided into three groups—heat cramps, heat prostration and heat pyrexia. There was another group described as myalgia and abdominal cramps, in which neither the myalgia nor the chemical findings were similar to those in typical heat cramps. Studies of the blood and urine showed that in heat cramps there is depletion of the body water and sodium chloride, with increased concentration of hemoglobin and protein in the blood, and diminished concentration of sodium and chloride; the concentration of chloride in the urine was also diminished when the patients were admitted to the hospital, the other clinical syndromes resulting from exposure to heat were not characterized by similar disturbances of the "electrolyte equilibrium." The patients with heat prostrations and heat pyrexia showed no depletion of body fluids or of salts. The cases with myalgia and abdominal cramps showed some increased concentrations of plasma protein, but no depletion of the chlorides of the blood. The findings in the cases of heat prostration indicate that this condition is due to peripheral circulatory collapse, the findings in heat pyrexia indicated that it is produced by a failure of the heat regulating mechanism of the body. In both the treatment and the prevention of heat cramps, the administration of sodium chloride and water is indicated. In the treatment of severe and moderately severe cases, physiological saline is given intravenously. For the prevention of heat cramps, the addition of salt to the drinking water for workmen exposed to high temperatures is the measure of most value; the final concentration of sodium chloride in the water should be approximately 0.1 per cent. Other disorders due to heat—especially heat prostration—may also be prevented to some extent by this method. If so, it is because the supply of water and salt, in approximately the same proportions as they are dissipated in the sweat, helps to maintain "a normal internal environment," not because it has the same specific effect as in heat cramps.

Syphilis and Unemployment

J. E. MOORE *(Journal of Industrial Hygiene, 19:189, May, 1937)* states that as interest has been aroused in the control of syphilis, some large industrial corporations and "certain branches of the Federal Government itself" are requiring routine blood tests on applications for employment and refusing employment to those giving positive reactions; in a few instances persons already employed have been discharged because they have been found to have syphilis. The author claims that this is a mistaken policy, and that refusal to employ a person who may show a positive blood test for syphilis is unjust and unnecessary for the protection of the employers, the other employees or the public. The positive blood test does not indicate that a person is infectious, and even if the disease is in the infectious stage, it is better to keep the person employed and provide suitable treatment which soon renders a syphilitic non-infectious. Unless a person has neurosyphilis or cardiovascular syphilis, there is no evidence that he is more susceptible to disease or injury or more liable to endanger others if handling dangerous machinery, than a non-syphilitic person. The routine blood test does not establish the diagnosis of cardiovascular syphilis or neurosyphilis; only a careful study of the patient can do this. If a person employed is found to have syphilis, the employer must "insist upon, and if necessary provide for" adequate treatment; he must also "preserve secrecy" in regard to his knowledge of the employee's disease. It should be remembered that many persons with latent syphilis and congenital syphilis, in spite of adequate medical treatment, remain

"Wassermann-fast," but are nevertheless fully capable of work with no added risk to themselves or others. Hence in deciding upon the employment of a person with a positive blood test, the decision must rest upon the findings in each case, and no general rule should be established.

Incidence of Syphilis in the Negro as Indicated by Serologic Tests

G. D. HOLLOWAY and his associates in the Hubbard Hospital at Nashville, Tenn. *(American Journal of Syphilis, 21:303, May, 1937)* report blood tests, using the Citron modification of the Wassermann test and in some instances the Hinton and Eagle tests, on 12,892 Negro patients from the clinics and wards of the hospital, and from a smaller group of Negro students in various institutions and student nurses in the hospital. In the first group of hospital patients, the incidence of syphilis as shown by the blood tests was 27.4 per cent.; counting only 2-plus to 4-plus reactions, 22.1 per cent. The incidence of syphilis in the student group as a whole (including student nurses) was much lower, 5.9 per cent. The majority of the hospital patients were domestic workers and unskilled laborers. Hence it is evident that the incidence of syphilis in these Negro groups is much higher than in the more intelligent, better educated group.

Venereal Disease Program of the State of California

H. MORROW *(California and Western Medicine, 46:300, May, 1937)* reports that the venereal disease program of the State Department of Health of California is being extended as rapidly as funds permit. Clinics for the free treatment of indigent patients with venereal disease are now being conducted by local "full-time" health departments, county hospitals, private charitable institutions and medical schools. Special provisions are planned for extending treatment facilities in rural communities. The free distribution of drugs for treatment is to be extended to clinics fulfilling certain standards and to physicians for patients unable to pay for treatment. A number of diagnostic centers are now established in connection with medical school clinics and these centers are to be extended. The State laboratory makes blood tests for State institutions and certain private agencies; and for private physicians' patients unable to pay, from districts where there are no local laboratories. An extensive educational program is also being prepared.

+ Ophthalmology +

Direction of Flow Between Cerebrospinal Fluid and the Optic Disc

J. Q. GRIFFITH and his associates at the Hospital of the University of Pennsylvania *(American Journal of Ophthalmology, 20:457, May 1937)* report experiments on rats in which the passage of thorotrast from the cerebrospinal space to the optic disc was demonstrated by the X-ray and also by histological examination of the eye tissues. Sixteen animals were given intracisternal injections of kaolin until block and hypertension were produced. Following this, thorotrast injected intracisternally failed to appear in the optic region on X-ray examination, and was much less evident histologically in the optic nerve sheaths or discs. In 8 of these 16 animals clear ventriculograms were obtained—a phenomenon never observed in normal animals after the intracisternal injection of thorotrast. The authors explain this as due to the fact that the thorotrast is removed very slowly from the cerebrospinal space in the animals with kaolin block, while in normal animals its escape is rapid. The evidence from these experiments indicates that the normal direction of fluid flow in the perineural spaces of the optic nerves is "from the cerebrospinal space toward the optic disc." In considering the relation of these findings to choked disc, the authors suggest that choked disc would not develop unless this route for the flow of fluid was patent. However, an additional factor in the production of choked disc may be interference with the venous and lymphatic absorption from the region of the disc.

COMMENT

The direction of flow of fluid between the eye and brain has been the subject of experimentation since the late fifties of the last

century. In this country, the work of the elder Gifford was particularly instructive, and almost continuous studies have been carried on year by year. The classical work of Behr has probably been the most elaborate. To one unfamiliar with the literature, it might seem that results of the various workers are contradictory. This is probably not so, however. There is much evidence from the accumulated studies pointing toward the idea that there are two quite separate and distinct channels of flow through the optic nerve structures.

No piece of research work can be accepted as indicating fluid flow, unless evidence is presented to show that the histocytes have not been responsible for the transportation of the material. This can hardly be ruled out where particulate injection material is used. The modified Prussian blue method as devised by Wegefarth and used by Evans, and also Berens, in their studies, probably overcomes the objections to the precipitation of Prussian blue by the technique of the older workers—Paterson, Nuel and Benoit, Gifford, etc.

J. N. E.

Glaucoma and Sympathetic Ophthalmia

B. SAMUELS *(Archives of Ophthalmology, 17:1031, June 1937)* states that in a material of 112 eyes that had excited sympathetic ophthalmia, there were 13 in which there had been glaucoma. In 6 cases there was a primary glaucoma which after operation for high tension excited a sympathetic ophthalmia. In 5 of these 6 cases the sympathetic ophthalmia developed after the exciting eye had become soft; in all these cases a considerable amount of sympathetic infiltration was present in the exciting eye. In the sixth case the sympathetic ophthalmia developed while the exciting eye was still in high tension; in this case no characteristic sympathetic infiltration was found. In the 7 cases of secondary glaucoma, the sympathetic ophthalmia developed "in spite of the increase in tension in the exciting eye;" there was "surprisingly little" specific infiltration in these cases; in one instance, none could be demonstrated; in the seventh case the sympathetic ophthalmia developed while the exciting eye was softened by an abscess of the vitreous; in this case there was "heavy" specific infiltration. These findings do not substantiate the view that there is no danger of the development of sympathetic ophthalmia in secondary glaucoma.

COMMENT

This article by Samuels, at first glance, might seem unrelated to the tissue flow studies reviewed above; but it must be recalled that experimental and pathological work has tended to show that the debris from inflammatory processes within the globe are commonly removed, at least in part, by transportation through the posterior drainage system. During this reparative process, the posterior drainage system may be blocked, so that, should there be an inadequacy of anterior drainage, rise of tension must be expected. The original contribution of the elder Fuchs on the subject of ophthalmoscopic and pathological evidence of this transportation should be consulted.

J. N. E.

Use of Sucrose Preparatory to Surgical Treatment of Glaucoma

E. W. DYAR and W. B. MATTHEW *(Archives of Ophthalmology, 18:57, July, 1937)* note that in cases of glaucoma in which there is relatively high intra-ocular tension, some procedure to "decompress" the eye before operation is indicated. Various procedures have been used. The results of Hahn and his associates with hypertonic solutions of sucrose in the reduction of intracranial presure, in cases of head trauma, led the authors to use intravenous injection of sucrose in hypertonic solution preliminary to operation for glaucoma. This method was employed in 30 operations on 20 patients. As a routine 400 c.c. of a 25 per cent. solution was injected slowly into the vein, the injection taking forty-five to sixty minutes. This method has been used in all types of glaucoma, primary and secondary, in which the tension was over 40 mm. (Schiötz). In all cases the tension was reduced to a relatively constant level (12 to 20 mm.), regardless of its original level. Five illustrative cases are reported. The sucrose solution also proved of value in several cases of iridocyclitis complicated by a rise in intra-ocular tension.

COMMENT

One is particularly attracted by the suggestion of these authors to lower intra-ocular tension through the use of the hypertonic solution of sucrose. Those of us who have worked with hypertonic solutions, for the purpose suggested, have not found them as useful as the theoretic concepts would lead

us to believe. In using glucose in particular, one must have reliable information on the patient's glucose tolerance. Whether hypertonic salt solutions are used, glucose or sucrose, the addition of large volumes of fluid to the blood stream implies a danger to any patient with vascular hypertension. A careful medical review is not always practical, as the use of hypertonic solutions is strongly indicated in acute cases.

J. N. E.

Keratoplasty

R. E. WRIGHT of the Medical College of Madras, India, (*British Medical Journal, 1:1311, June 26, 1937*) notes that while in recent years there has been considerable discussion concerning corneal grafting in medical literature, there is relatively small demand for this operation in western countries, and also "comparative scarcity" of good material for transplants. This has limited the field of this operation and the majority of ophthalmic surgeons in western nations "hesitate to adopt a measure which presents so many apparent difficulties." In the Near and Far East, however, there is much demand for the relief obtained by corneal grafting and suitable grafting material is comparatively easy to obtain. The author, in his practice in Madras, has developed a technique for corneal grafting, which he describes in detail. The graft is obtained from a living human eye, and from one with a normal anterior chamber. Eyes blind from glaucoma furnish "quite good" grafts and also eyes removed in exenteration for malignant disease. A trephine is used for both removing the graft from the donor and preparing the bed in the recipient; the best average size, the author has found, is a trephine of 6 mm. diameter. In taking the graft, it is important to keep Descemet's membrane intact; the graft is "treated from the beginning like a delicate histological section in process of mounting." In preparing the bed for the graft in the recipient the cornea is trephined through as far as possible; the pupil should be contracted, the iris intact and the lens clear. The graft when removed from the donor is placed in warm saline; it is taken from the saline with the Volkmann spoon and a camel hair brush and placed in the prepared bed, being adjusted in position with the camel's hair brush, and sutures placed and tied off. Atropine and iodoform ointment is placed in the conjunctival sac; or eserine may be used instead of atropine if the graft is large. The patient is kept quiet until the third day, when the dressing may be changed; the stitches are removed by the fifth day. Atropine (or eserine) is continued. The author states that "an optimal result," that is, really good visual acuity, is an exception in corneal grafting, but the operation may enable a previously blind patient to see large objects and get about alone. But even if a blind patient is not made to see, corneal grafting is often the best method of repair in preference to other plastic procedures.

COMMENT

Without doubt, there has been a marvelous advance in grafting clear corneal tissue into the opaque cornea of a previously diseased eye; yet the refined technique and the special study required seem, at the present stage of progress, to belong to one especially trained and with special opportunities. This is all the more apparent when one realizes, first, that there is not a great demand for the operation in this country, and second, that "donor" material is so difficult to obtain. It is interesting to know that, whereas the general plastic surgeon is very careful to avoid the use of various antiseptics (because they interfere with growth of graft tissue), those interested in keratoplasty do not hesitate to use such solutions. Results in this country are apparently much better than those implied by the British writers. Reference is made particularly to the work of Castroviejo.

J. N. E.

Lesions of the Fundus In Polycythemia

M. COHEN (*Achives of Ophthalmology, 17:811, May, 1937*) notes that the characteristic finding in the fundus in polycythemia is marked distention and engorgement of the retinal veins, which appear purplish. This is a part of the general vascular disturbance characteristic of the disease. The distention of the veins is due chiefly to an increase in the blood volume and a thinness of the venous wall; the change in color is due to the presence of excess carbon dioxide in the blood. The venous stasis resulting is the basic cause of any lesion in the fundus in polycythemia. The author reports 7 cases of polycythemia, 5 of the primary and 2 of the secondary type. In the 2 latter

cases there were no fundic complications; the retinal veins were distended, slightly tortuous and purplish; the retinal arteries were also moderately dilated and purplish; in one case the optic disc appeared reddish and the fundus had "a grayish tinge;" in the other color of the fundus was normal; vision was normal in both cases. In the 5 cases of the primary type, the fundus changes were purely vascular in 3 cases. These cases showed distention of the retinal veins, which were "moderately tortuous" and purplish in color; the retinal arteries were normal in size and color and the disc appeared normal.

Two cases showed lesions of the fundus. In one case there was edema of the disc and retinal hemorrhages in one eye, in addition to the venous engorgement. In the other case there was bilateral postneuritic atrophy of the optic nerve with distended veins with a distinct broad white band along the perivascular space (due to a transudation of plasma); the arteries did not show this perivascular band. This latter case was the only one of the series in which there was a diminution in vision. The author has previously (1918) reported a a case of polycythemia with unilateral thrombosis of the central retinal vein. The author notes that ophthalmoscopic examination in the early stages of polycythemia is "an additional aid in the diagnosis of both types."

COMMENT

Judgment of changes in eyegrounds, such as are discussed in this paper, is quite unsatisfactory for the reason that we have no simple and practical method of measuring vessel diameter and color variations. Dr. Cohen has himself devised a colorimeter which can be attached to the ophthalmoscope but which, as far as the commentator knows, has not been made available. The various grids and graticules devised for measuring vessel diameter are not as adaptable to the conditions as their theoretic consideration would imply.

J. N. E.

Retrobulbar Neuritis in Pellagra

M. FINE and G. S. LACHMAN (*American Journal of Ophthalmology, 20:708, July, 1937*) report 3 cases of pellagra in which there was impaired vision due to retrobulbar neuritis. In one of these the ocular symptoms developed before the signs of pellagra appeared. All these patients had been drinking considerable quantities of whiskey before the symptoms appeared, but in 2 cases the eye symptoms developed during a period of abstinence. Only one of the patients was a heavy smoker and all used cigarettes and no other form of tobacco, while the occurrence of tobacco-alcohol amblyopia is rare in cigarette smokers. In none of the patients was the central scotomata observed that is characteristic of tobacco-alcohol amblyopia. In all there was a history of faulty diet in association with the consumption of alcohol; so that the authors are convinced that the retrobulbar neuritis was associated with the pellagra, although in the present state of knowledge the relationship of the pellagrous syndrome to the visual disturbances is a matter of speculation. In all, both the vision and the pellagra improved under treatment with vitamin-rich diet with accessory vitamin-B, cod-liver oil, liver and iron.

COMMENT

It is not enough to relate the deficiency of vitamin B to the neuritis of pellagra or to the neuritis of tobacco-alcohol amblyopia, because it has been shown by the researches of McFarland on high altitude that an increase of oxygen in the alveolar air has a very direct influence on the rate of recovery from acute alcoholism, and hence on the length of time over which the vitamin B deficiency can occur. Most of us who have used the various vitamin B preparations in the treatment of tobacco-alcohol amblyopia have found that improvement is not consistent in apparently similar cases. It is possible that the treatment with vitamin B in relatively acute cases should be supplemented by oxygen inhalation, etc.

J. N. E.

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OUR AIMS

The primary purpose of all medical organizations is to provide a high grade of service and to prevent exploitations of the sick of a community by charlatans.—C. G. Heyd, M.D.

AIR-BORNE INFECTION

Pathogenic bacteria given off by human beings and floating in the air cause the major portion of infected wounds originating in the operating room.—*Journal of Thoracic Surgery.*

Medical Book News

• All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, New York.

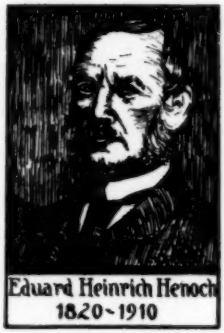
Edited by Alfred E. Shipley, M.D., Dr.P.H.

Influence of Physical and Social Sciences on Medicine

THE DEVELOPMENT OF MODERN MEDICINE. An Interpretation of the Social and Scientific Factors Involved. By Richard H. Shryock. Philadelphia, University of Pennsylvania Press, [c. 1936]. 442 pages, illustrated. 8vo. Cloth, $4.00.

In this most interesting work, Professor Shryock describes the major aspects of the development of the basic sciences from the point of view of their influence upon the progress of medicine since the start of the Seventeenth Century. The author delineates the interrelationships between medicine and the other sciences, and shows how the forces which aided one were favorable to the advancement of the others.

Probably the greatest advance of the Seventeenth Century, Harvey's discovery of the circulation of the blood, was based entirely on physico-mathematical studies. The work of Malpighi in anatomy was advanced by the mechanical aid to vision of the microscope, invented by Leeuwenhoek and Jensen. The science of chemistry which advanced during the Eighteenth Century by the unremitting work of Priestley, Cavendish, and Lavoisier, explained unequivocally the physiology of respiration, and gave the much disputed theory of phlogiston its death blow.



Eduard Heinrich Henoch
1820-1910

The great achievements of medicine during the Nineteenth Century were promoted by the experimental method and by the use of instrumental devices. Jenner's vaccination against smallpox, the development of anaesthesia for surgical operations, bacterial infection and the antiseptic principle in surgery —all were the products of experimentation. The application of scientific principles of chemistry, physics, and mathematics contributed to the development of the ophthalmoscope, the discovery of Radium, and the Röntgen Rays.

The closing chapters are devoted to the different systems

Classical Quotations

● If one compares these 4 cases, it is seen that they agree remarkably. Characteristic for all, is the combination of purpura and the striking intestinal symptoms, which are present in the form of colic, tenderness of the abdomen, vomiting (often a green mass), and in hemorrhages. Also the rheumatoid pains, and, in one case, the swelling, which was absent in the second case. Characteristic, furthermore, is the appearance of these symptoms in attacks, with an interval of 8 days or more, so that in the usual cases 3 to 7 weeks passed before the process cleared up; in the last case, indeed, more than 3 months.

Eduard Henoch. Berliner Klinische Wochenschrift, XI, 641, 1874.

of the practice of medicine in various European countries and to the evolutionary changes in medical practice in the United States.

Professor Shryock's book is an absorbing and highly scientific contribution, encyclopedic in content, to the study of the evolution of modern medicine.

WILLIAM RACHLIN.

Horsley's Fourth Edition

OPERATIVE SURGERY. By J. Shelton Horsley, M.D. and Isaac A. Bigger, M.D. Volumes 1 & 2, fourth edition. St. Louis, C. V. Mosby Company, [c. 1937]. 1387 pages, illustrated. 4to. Cloth, $15.00.

The fourth edition of this work appears in two volumes. Each of the three previous editions was published in a single one. There are 1337 pages with 1259 illustrations. The index which occupies 36 pages is comprehensive and complete. The reviewer knows of no text occupying the same space which is as inclusive and complete a work on general surgical procedures as is this one. It is because of the elimination of the untried and the unproven operative procedures that Dr. Horsley and Dr. Bigger have been able to cover the entire subject in such a relatively brief space.

Since the first edition which was published in 1921, Dr. Horsley has adhered to the preservation of physiologic function and the interpretation of the biologic processes that follow surgical operations. The author has always assumed that the surgeon must of necessity know more or less about anatomy. He realizes that many surgeons know much too little about physiology than they should for the welfare of their patients. With this in mind, almost without exception, the author has presented the procedures which either in his own experience or in the experience of his co-workers have given the best functional results.

One of the outstanding examples of Dr. Horsley's physiologic operations is that of partial gastric resection. He advises the anastomosis of the distal end of the remaining stomach segment with the duodenum which has been "flared" so that its cross section corresponds exactly in size to that of the stomach segment. This of course is not a new procedure. It has been used for a long time by a great many men with a great many modifications. In fact it is a modification of the Billroth I operation. Countless similar illustrations might be sighted.

Just before Dr. Horsley consented to publish this fourth edition, he recognized the rapid development in the various fields of so called General Surgery namely, urologic, orthopedic, plastic, and neurologic. He, therefore, took unto himself a number of men who have especially interested themselves in these various divisions of surgery and asked them to collaborate with him.

He has produced a complete, sensible, clinical, and understandable work. It is brought up to the very last minute. The operation of Claude Beck on the heart is included with several diagrams of the procedure. The various methods of thoracoplasty as done by Sauerbruck, the operation for Tic Douloureux of the ninth nerve as done by Dandy and Singleton, and radical Phrenicotomy of Felix, the Cardiolysis of Marvin and Harvey, McGuire's Hypospadias operation, cleft palate as done by Brown, the transplantation of whole skin as done by Davis, and the face lifting operation of Hunt and Miller are a few of the newer ones completely described and adequately illustrated.

In a brief review such as this, it is impossible to describe all of the admirable features presented. Briefly, the reviewer recommends these two volumes of Operative Surgery to all those who aspire to or are doing surgical work. They will find a ready reference to the accepted modern day surgical procedures from which the fads and fancies have been omitted.

MERRILL N. FOOTE.

Rural Medicine

AUS MEINEN KRANKENBLATTERN. By Dr. August Heisler. Forms Heft 47 of the Sammlung Diagnostisch-Therapeutischer Abhandlungen für den Praktischen Arzt. Munchen, Otto Gmelin, [c. 1935]. 68 pages. 8vo. Paper, bound RM. 2.25, unbound RM. 1.58.

This is a small brochure from the pen of a country doctor, which contains the following:—

1. In Memoriam, Dr. Lieck.
2. Leaves from his professional notes.
3. Lecture at a School Course for Mothers.
4. On Infantile Paralysis.
5. Fundamentals of Medical Treatment in Homes for Children.

6. Oration on the Occasion of the Dedication of a Waterworks.

The book is interesting as representing the thoughts and experiences of a country doctor in Germany. His views on the virtue of leeches are particularly refreshing.

J. M. VAN COTT.

A New Volume of the Harvey Society

THE HARVEY LECTURES. Delivered under the auspices of the Harvey Society of New York. Series XXXI. Baltimore, The Williams & Wilkins Company, [c. 1936]. 255 pages, illustrated. 8vo. Cloth, $4.00.

This thirty-first series is so generally excellent that it is difficult not to comment on each lecture. The topics are all closely allied with medical interests, and in most cases represent phases of the author's own work. The subjects are from widely divergent sources, but each is elaborate and of specific interest to workers in related fields. Of particular interest to the clinician is the discussion of *Physiology of the Bronchial Vascular System* by Dr. I. deBurgh Daly, of Edinburgh, and *Virus Tumors of the Tumor Problem* by Dr. Peyton Rous, of New York.

IRVING M. DERBY.

The Elements of Biochemistry

AN INTRODUCTION TO COMPARATIVE BIOCHEMISTRY. By Ernest Baldwin, B.A. New York, Macmillan Company, [c. 1937]. 112 pages, illustrated. 12 mo. Cloth, $1.50.

Here is a small book of about one hundred pages which cannot be read in an hour. It needs careful studying but any amount of time spent on it will be well invested.

This work contains nothing that one can apply to the puzzling case on hand. However, anyone interested in looking behind the scenes of vital processes will find in it many refreshing and stimulating facts and thoughts.

The discussions of comparative kidney structures, osmosis, nitrogen excretion, respiration and kindred subjects as they occur throughout the animal kingdom are extremely instructive and fascinating.

The average doctor, who gets a little tired of reading about signs, symptoms and surgical procedures, should turn to this book. It will be a mental vacation.

BENJAMIN DAVIDSON.

Our Present Knowledge of the Ductless Glands

ENDOCRINOLOGY. Clinical Application and Treatment. By August A. Werner, M.D. Philadelphia, Lea & Febiger, [c. 1937]. 672 pages, illustrated. 8vo. $8.50.

The author reiterates the statement so often heard now that to be a good endocrinologist one must first be a good internist and the time is not far distant, when, in order to be a good internist, one must be a good endocrinologist. The author does not attempt to make a specialist of the reader but undertakes to summarize present knowledge of the subject in a way which is easily understood.

The autonomic nervous system is described in detail in the first chapter as a basis for the ensuing pages. In the discussion of endocrine glands and conditions, the author draws copiously on literature and on his own extensive personal experience. The book is replete with clinical case reports and original photographs illustrating the various topics.

This book is recommended to the general practitioner as a safe and conservative guide to both diagnosis and treatment of endocrine disturbance.

M. B. GORDON.

Pediatrics In Pocket-Size

AIDS TO DIAGNOSIS AND TREATMENT OF DISEASES OF CHILDREN. By F. M. B. Allen, M.D. Seventh edition. London, Baillière, Tindall & Cox, [c. 1937]. (Baltimore, Williams & Wilkins Co.) 329 pages. 16mo. Cloth, $1.50.

In the latest revision of this little work the author has produced an excellent short review of important facts of pediatrics for the use of students and practitioners. He follows the classical method in the exposition of subjects, starting with the newborn and infant feeding, and proceeding through the varoius systems of the body in respect to their diseases. The mature experience of the writer adds greatly to the interest of the reader. An appendix gives explicit directions concerning the preparation of foods, enemata and baths, and the use of the more common diagnostic methods. Tables give weight-height standards and the common criteria of normal development, and finally a list of common-sense prescriptions aid the less experienced to control the ravages of disease in little ones.

KENNETH G. JENNINGS.

A Comprehensive Study of the Hospital Needs of New York City

REPORT OF THE HOSPITAL SURVEY FOR NEW YORK. A description of the Institutions and Agencies Concerned with the Organized Care of the Sick in the New York Metropolitan Area, with Analysis of Their Use and Cost, and Consideration of Plans for the Future. Presented to the Survey Committee by Its Study Committee. Volume II. New York, United Hospital Fund, [c. 1937] 1246 pages. 8 vo. Cloth.

The hospitals of New York, in recognition of the great need for co-ordinating efforts of the various organizations engaged in the care of the sick and for the establishment of a long range plan to this end, sponsored in 1934 "The Hospital Survey for New York". The study committee, under the direction of Dr. Haven Emerson, comprised many eminent authorities. The area investigated included New York City and surrounding territory in New Jersey, Westchester and Connecticut within a radius of about fifty miles. The population of this area is some ten and one half millions, and it is estimated that there will be eighteen millions by 1960.

The committee has completed a stupendous factual study of existing conditions, of the general character and distribution of the population and of the numerous services available in 1930 and 1934, together with the extent to which they were used, the costs involved and the sources of revenue. Subjects discussed include hospital facilities, nursing service, dispensary service, ambulance service, medical social service, care of the chronic sick, care of convalescents, care of the sick in their own homes by physicians and visiting nurses, special medical problems of maternity, mental disease, the tuberculous, venereal, dental, cancer, heart and diabetic patients. Unnecessary expansion of certain hospital accommodations, inadequacy of other accommodations, the possible substitution of home care for some of the present hospitalization, the discontinuance or merger of certain small institutions and dispensaries not affiliated with hospitals, recompense for physicians for services to the indigent—these and many other topics are considered in the light of the existing situation, and definite recommendations are suggested for a controlled program, more appropriate to present and future needs.

WILLIS G. NEALLEY.

Diagnostic Medicine From Pittsburgh

CLINICAL REVIEWS OF THE PITTSBURGH DIAGNOSTIC CLINIC. Guideposts to Medical Diagnosis and Treatment. Edited by H. M. Margolis, M.D. New York, Paul B. Hoeber, Inc., [c. 1937]. 552 pages. 8vo. Cloth, $5.50.

This volume consists of a series of papers on various aspects of internal medicine contributed by members of the Pittsburgh Diagnostic Clinic. The great majority are intelligent, comprehensive and thoroughly up-to-date reviews of such subjects as hypothrodism, Addison's disease, obesity, focal infection and gouty arthritis. Worthy of special mention are those written by H. M. Margolis which are of unusual excellence. The paper on *Constitutional Biologic Inferiority* is one of the best medical papers we have ever read. The style, a phase of medical writing too often neglected in this country, may be highly recommended.

MILTON PLOTZ.

The Evolution of Orthopedic Surgery

SOURCE BOOK OF ORTHOPAEDICS. By Edgar M. Bick, M.D. Baltimore, The Williams & Wilkins Company, [c. 1937]. 376 pages. 8vo. Cloth, $4.00.

This book gives in the beginning a comprehensive history of early medicine, and brings to light many facts about primitive customs and ideas concerning the practice of medicine as well as the practice of orthopedics.

The author then follows the practice of medicine and orthopedics through the Middle Ages, which at that time consisted mainly of the treatment of fractures, dislocations and wounds sustained in fighting, of which there was a great deal. The Renaissance period is characterized by the beginning of a more scientific approach to medicine in that a few began to study anatomy and apply it. Also, armor guilds began to devote some of their activity to the making of artificial limbs.

The Seventeenth and Eighteenth Centuries show considerable development in the practice of orthopedics in every way, especially in the study of deformities both congenital and acquired.

Doctor Bick then brings us to the Modern period of orthopedics, in which period he takes each condition separately, starting with the physiology of bones and

joints and its development; pathology and its development; he then studies the development of bone surgery, joint surgery and the surgery of muscles and tendons. In these separate chapters, he gives a wealth of material obtained from all the men who have contributed to orthopedic surgery during that time.

On reading the book, one is impressed by the amount of time and study that must have been necessary to produce it. The book is written in a clear, lucid style so that one's interest is held and not sidetracked by unimportant details. The book is valuable as a concise and brief story of the evolution of orthopedic surgery, and still more valuable as a guide to the original sources of information on up-to-date orthopedic principles and practice.

RALPH P. STEVENS.

A Special Treatise on the Endocrines

THE ENDOCRINES IN OBSTETRICS AND GYNECOLOGY. By Raphael Kurzrok, M.D. Baltimore, Williams & Wilkins Company, [c. 1937]. 488 pages, illustrated. 8vo. Cloth, $7.50.

The author calls attention to the complexities of the problem even in the light of the discoveries made in the last decade. "In spite of the huge increase in knowledge concerning the sex hormones, many gaps still remain. As is so often the case, the solving of one problem merely discloses many new ones".

The first chapter gives some high lights in the history of the glands of internal secretion. Willis (1675) suggested that puberty was the result of ferments which passed from the genitals into the blood. Claude Bernard stated that all glands and organs secreted chemical substances into the blood stream and were thereby able to influence the metabolism of distant glands.

"Zygotic and embryonic sex differentiation is determined by the nuclear genes at the time of union of the gametes; they decide whether a male or female shall develop. In embryonic sex differentiation, generalized rudiments first appear in all individuals whether destined to be male or female. Subsequent development of these rudiments produces the specific characteristics peculiar to each sex. Masculinity and femininity are variations in the oxidizing rates, leading to maleness in the former and femaleness in the latter. Under normal conditions, the endocrine factors maintain sexuality in the channel originally predetermined by the genes. For the genes' pattern normally determines the character of the endocrines." The above passage gives some idea of the terse, interesting style of the author.

Then follows the histology of the sex organs, the physiology of estrone and progesterone with graphic formulae. This is original and lucid, not found in any book on the subject.

What are the hormones of the anterior pituitary? How do they work? What are their relations to the other glands of ternal secretions? What is prolan *A* and *B?* Their source and action? The various combinations of estrone are fully described. The chapter on the A. Z. test is one of the best in literature. The adrenals, thyroid, pancreas, parathyroid, thymus are considered in detail in separate chapters, which gives the book a much wider range of usefulness than its name implies.

Then follows the clinical side of the picture, with case histories from the author's rich and varied experience. Primary and secondary amenorrhea, cystic glandular hyperplasia, dysmenorrhea, are described and illuminated with case histories from the clinic and bedside. Finally a chapter on hormone assay closes the book. At the end of each chapter, a large and comprehensive reference list is given. One is impressed by the startling advance made in the past few years.

This book is an authoritative and comprehensive addition to our knowledge of endocrinology. Simply and clearly written, the author's erudition, ripe experience and mature judgment are evident in every chapter.

FRANCIS B. DOYLE.

Retinoscopy

THE OCULAR FUNDUS IN DIAGNOSIS AND TREATMENT. By Donald T. Atkinson, M.D. Philadelphia, Lea & Febiger, [c. 1937]. 142 pages, illustrated. 4to. Cloth, $10.00.

This well illustrated work is designed to be of assistance to the diagnostician, obstetrician, neurologist, etc., as well as to the ophthalmologist. Approximately one half of the book is text and is concluded with an index. The succeeding

half of the book is composed of colored plates representing various eye ground conditions. The reviewer thinks that these plates are not as true representations as those shown in other available works; but after all, there is such a tremendous individual variation that no doubt close similarity could be found in actual cases. The book is well printed but a paper showing less glare, particularly for the text, could have been used.

JOHN N. EVANS.

Diet Therapy for Children

PEDIATRIC DIETETICS. By N. Thomas Saxl, M.D. Philadelphia, Lea & Febiger, [c. 1937], 565 pages, illustrated. 8vo. Cloth, $7.00.

The reviewer leaves this book with mixed sentiments. As a source book it is excellent, containing all kinds of lists of foods, high protein, low calcium, vitamin high and low, etc., with extensive lists of food compositions, and the bibliography exceeds twenty pages.

But the middle part of the book, over 275 pages, lists diseases—or conditions—alphabetically, the first ten being Acidosis, Alkalosis, Allergy, Anhydremia, Arthritis, Asthma, Cardiac Conditions, Catarrhal Jaundice, Celiac Disease, Chorea. Think of the dietetic treatment of some of these! In various places is a brief general discussion of diseases and their therapy.

This reviewer really cannot see how he, or other physicians, can use the scores of pages of "Sample Menus". Are we to copy them and hand them to patients?

Incidentally, we are annoyed to see the word *glucose* used when *dextrose* is meant. Our authority in the U. S. is the *Pharmacopoeia.*

In spite of our criticism, we recommend the book for the very great amount of valuable material contained in it, which *is* authentic.

WALTER D. LUDLUM.

Van Blarcom on Maternity Care

GETTING READY TO BE A MOTHER. Information and Advice for the Young Woman Who Is Looking Forward to Motherhood. By Carolyn C. VanBlarcom, R.N. Third edition, revised. New York, The Macmillan Company, [c. 1937]. 305 pages, illustrated. 12mo. Cloth, $2.00.

This is the third edition of a practical guide for expectant mothers which was published first in 1922. Every conceivable question is well answered, and the physician need have no worry about the soundness of the advice given. Miss VanBlarcom has had a lot of teaching and practical experience, and her book on *Obstetrical Nursing* is a leader in that field. It is gratifying to note that, unlike so many books of this sort, comparatively few pages are devoted to the anatomy and physiology of the baby's beginnings. There are many simple and practical illustrations. The importance of the physician as sole guide and adviser is constantly stressed, so this book can be heartily recommended.

CHARLES A. GORDON.

A Pocket Text on Massage

THE MASSEUR'S COMPANION. A Concise Survey of the Medical and Surgical Conditions Amenable to Massage, with an explanation of the actual Massage Treatment indicated. By Arthur J. Bowman, M.I.C.M. London, The Actinic Press, Ltd., [c. 1936]. 96 pages. 24mo. Cloth, 5/.

Although this little book is a ready reference for the masseur, the physician or surgeon may also refresh his memory by consulting it. For example, the writer discusses fractures, dislocations and sprains, primarily giving a definition of each type followed by causes, surgical treatment and aftercare with massage.

The conditions amendable to treatment by massage are too numerous to mention here, but each one is dealt with in abbreviated form. It is the note type of text serving only as a reminder to the experienced person in the art of true massage.

JOSEPH I. NEVINS.

Another Book for the Sex Shelf

SEXUAL POWER. By Chester T. Stone, M.D. New York, D. Appleton-Century Company, [c. 1937]. 172 pages. 12 mo. Cloth, $1.50.

This little book discusses sexual power—and the lack of it. It is avowedly and obviously written for the laity. The psychic and physical mechanism of the sexual act and the periods immediately preceding and following are described—perhaps too vividly.

It is quite possible that this book might benefit a few and probably would interest a number of others.

NATHANIEL P. RATHBUN.

For the Orthopaedist

ORTHOPÄDISCHE FUSSGYMNASTIK EIN BEITRAG ZUR BEHANDLUNG DES JUGENDLICHEN KNICK-BZW. KNICKSENKFUSSES. 3 Aufl. By R. Wilhelm. München, Otto Gmelin, [c. 1936]. 32 pages, illustrated. 8vo. Paper, RM. 1.35.

This is a small brochure of 32 pages and 13 illustrative photographs on the gymnastic treatment of incomplete flat foot, which should be interesting to orthopaedists.

J. M. VAN COTT.

Psychotherapy

THE SCIENCE OF HYPNOTISM. By Alexander Cannon, M.D. New York, E. P. Dutton & Co., Inc., [c. 1936]. 126 pages, illustrated. 12mo. Cloth, $1.50.

The book is an outline of hypnotism which the author has practiced for many years. He attempts to present the subject in as simple a manner as possible. Numerous references are made to the various methods employed, and to the works of others who have been interested in the subject.

The author has succeeded in presenting a rather difficult subject in a simple, concise, and clear manner.

IRVING J. SANDS.

Anatomy for the Surgeon

SURGICAL ANATOMY. By Grant Massie, M.B. Third edition. Philadelphia, Lea & Febiger, [c. 1937]. 468 pages, illustrated. 8vo. Cloth, $6.50.

The new edition of this Surgical Anatomy presents to student and surgeon an inviting work, succinct and clear.

The text gives the language liaison between old terminology and that of the B.N.A., so that students of the past and of the present may readily understand each other.

A nice balance is preserved between anatomy, physiology, and clinical surgery. Those areas and systems which are the building blocks of surgical anatomic knowledge are given a memory-gripping presentation. Fittingly interspersed are 153 illustrations which contribute needed clarity to relations and to transitions in relationships.

In this well arranged presentation of surgical anatomy we have a readily assimilable basis for sound clinical thinking.

CARLETON CAMPBELL.

BOOKS RECEIVED

Books received for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

SEX LIFE IN MARRIAGE. By Oliver M. Butterfield, M.A. New York, Emerson Books, Inc., [c. 1937]. 192 pages, illustrated. 12mo. Cloth, $2.00.

TAKE CARE OF YOURSELF. A Practical Guide to Health and Beauty. By Jerome W. Ephraim. New York, Simon and Schuster, [c. 1937]. 287 pages. 8vo. Cloth, $2.00.

PRACTICAL ENDOCRINOLOGY. Symptoms and Treatment. By Max A. Goldzieher, M.D. Second edition. New York, D. Appleton-Century Company, [c. 1937]. 344 pages, illustrated. 8vo. Cloth, $5.00.

DIE THERAPIE AN DEN BERLINER UNIVERSITÄTS-KLINIKEN. Herausgegeben von Professor Dr. Heinz Kalk. 11th Auflage. Berlin & Wien, Urban & Schwarzenberg, [c. 1937]. 661 pages. 12mo. Cloth, R.M. 10.50.

PHYSICAL DIAGNOSIS. The Art and Technique of History Taking and Physical Examination of the Patient in Health and in Disease. By Don C. Sutton, M.D. St. Louis, The C. V. Mosby Company, [c. 1937]. 495 pages, illustrated. 8vo. Cloth, $5.00.

EVERYDAY FIRST AID. By Walter Frank Cobb, M.D. New York, D. Appleton-Century Company, Inc., [c. 1937]. 269 pages, illustrated. 12mo. Cloth, $1.50.

I WAS A PROBATIONER. By Corinne J. Kern. New York, E. P. Dutton & Co., Inc., [c. 1937]. 314 pages. 8vo. Cloth, $2.50.

HEART FAILURE. By Arthur M. Fishberg, M.D. Philadelphia, Lea & Febiger, [c. 1937]. 788 pages, illustrated. 8vo. Cloth, $8.50.

SAFELY THROUGH CHILDBIRTH. A Guide Book for the Expectant Mother. By A. J. Rongy, M.D. New York, Emerson Books, Inc., [c. 1937]. 192 pages, illustrated. 12mo. Cloth, $2.00.

CHILDBIRTH: YESTERDAY AND TODAY. The Story of Childbirth Through the Ages, to the Present. By A. J. Rongy, M.D. New York, Emerson Books, Inc., [c. 1937]. 192 pages, illustrated. 12mo. Cloth, $2.00.

NUTRITIVE ASPECTS OF CANNED FOODS. A bibliography of scientific reports, and helpful tables of food data. New York, American Can Company, [c. 1937]. 110 pages, illustrated. 8vo. Cloth.

THE TRAFFIC IN HEALTH. By Charles Solomon, M.D. New York, Navarre Publishing Company, Inc., [c. 1937]. 393 pages. 8vo. Cloth, $2.75.

HEALTH EDUCATION OF THE PUBLIC. A Practical Manual of Technic. By W. W. Bauer, M.D. and Thomas G. Hull, Ph.D. Philadelphia, W. B. Saunders Company, [c. 1937]. 227 pages, illustrated. 8vo. Cloth, $2.50.

CLINICAL ALLERGY. By Louis Tuft, M.D. Philadelphia, W. B. Saunders Company, [c. 1937]. 711 pages, illustrated. 8vo. Cloth, $8.00.

DIE GASTROSKOPIE. Lehrbuch und Atlas. By Prof. Dr. Kurt Gutzeit and Doz. Dr. Heinrich Teitge. Berlun & Wien, Urban & Schwarzenberg, [c. 1937]. 342 pages, illustrated. 4to. Cloth, RM. 56.

THE COMMON NEUROSES. Their Treatment by Psychotherapy. An Introduction to Psychological Treatment for Students and Practitioners. By T. A. Ross, M.D. Second edition. Baltimore, William Wood & Company, [c. 1937]. 236 pages. 8vo. Cloth, $4.00.

PRACTICAL METHODS IN THE DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES FOR MEDICAL PRACTITIONERS AND STUDENTS. By David Lees, F.R.C.S. Third edition edited and revised by Robert Lees, F.R.C.P. Baltimore, William Wood & Company, [c. 1937]. 608 pages, illustrated. 12mo. Cloth, $5.00.

TEXTBOOK OF DIAGNOSTIC ROENTGENOLOGY. By Lewis J. Friedman, M.D. New York, D. Appleton-Century Company, [c. 1937]. 623 pages, illustrated. 4to. Cloth, $10.00.

THE ESSENTIALS OF CHEMICAL PHYSIOLOGY FOR THE USE OF STUDENTS. By the late W. D. Halliburton, M.D., J. A. Hewitt, Ph.D., and W. Robson, Ph.D. Thirteenth edition. New York, Longmans, Green and Company, [c. 1937]. 350 pages, illustrated. 8vo. Cloth, $4.00.

CANCER: THE GREAT DARKNESS. By the Editors of "Fortune". Garden City, Doubleday, Doran & Company, Inc., [c. 1937]. 80 pages, illustrated. 12mo. Paper, $1.00.

EARLY MEDIEVAL MEDICINE WITH SPECIAL REFERENCE TO FRANCE AND CHATRES. By Loren C. MacKinney, Ph.D. The Hideyo Noguchi Lectures. Baltimore, The Johns Hopkins Press, [c. 1937]. 247 pages, illustrated. 8vo. Cloth, $2.75.

THE LABORATORY DIAGNOSIS OF SYPHILIS. The Theory, Technic, and Clinical Interpretation of the Wassermann and Flocculation Tests With Serum and Spinal Fluid. By Harry Eagle, M.D. St. Louis, C. V. Mosby Company, [c. 1937]. 440 pages, illustrated. 8vo. Cloth, $5.00.

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MANUAL OF THE DISEASES OF THE EYE. For Students and General Practitioners. By Charles H. May, M.D. Fifteenth edition revised. Baltimore, William Wood and Company, [c. 1937]. 498 pages, illustrated. 12mo. Cloth, $4.00.

TO DRINK OR NOT TO DRINK. By Charles H. Durfee, Ph.D. New York, Longmans, Green and Co., [c. 1937]. 212 pages. 8vo. Cloth, $2.00.

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HOW MANY NEED HELP?

Within a small margin of error, about 50 per cent of the population goes through the year without any illness. Fifty per cent of the illness of the other half are not disabling. One half of the remainder, or about 12½ per cent, are of a minor character, such as the common cold, and involve a disability of less than a week. This leaves about 12½ per cent who have serious illness and an expense for wage loss and for medical care sufficient to constitute a real problem. Of these, many are able to meet the necessary expense from their own savings, by deferred payments or from regular income, just as they meet other extraordinary expenses. Thus it seems reasonable to assume that 5 per cent—certainly less than 10 per cent—of the total population are unable to meet their sickness expense without great sacrifice. This is still enough of a problem always deeply to concern organized medicine.

It is a testimony to the accuracy of these figures that when county medical societies have set up machinery to provide medical service for those otherwise unable to obtain it the number served has almost invariably been between 3 and 5 per cent of the total population.—*Jour. A. M. A.*, Feb. 20, 1937.